CULINARY MEDICINE

CURRICULUM

by Michelle Hauser MD, MS, MPA, FACLM, Chef

AMERICAN COLLEGE OF Lifestyle Medicine

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Contributors: Julia Nordgren, MD, Chef; Maya Adam, MD; Christopher Gardner, PhD, FAHA; Tracy Rydel, MD; Alaina Bever, BS; Emma Steinberg, MD, Chef
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This curriculum is based on the foundational work of Michelle Hauser, MD, MS, MPA, FACLM, Chef who created a culinary medicine elective course for medical students at Stanford University School of Medicine in 2017 with assistance from Julia Nordgren, MD, Chef and Stanford colleagues, Maya Adam, MD, Tracy Rydel, MD, Christopher Gardner, PhD, and David Iott, Chef. The course has been extremely well-received. All course students reported improvements in their own diets and their ability to successfully counsel patients on healthy eating, while taking into account culture, time, and resources. At the end of the course, all students understood that a healthy diet can take many forms and should be centered around whole, plant foods. The course was consistently oversubscribed, with a waitlist at least equal in number to enrolled students, allowing comparison of outcomes among enrolled students versus waitlisted controls. Students who took the course had highly significant overall improvement in attitudes, knowledge, and behavior around healthy cooking and eating (P value <0.0001) compared with controls.

The success of the course and many requests for dissemination of the curriculum, prompted Dr. Hauser to partner with the American College of Lifestyle Medicine (ACLM) to expand the reach of this curriculum beyond Stanford's campus. While Culinary Medicine does not endorse a single dietary philosophy,[1,2] this curriculum has been designed to focus on whole food, plant-based (WFPB) nutrition. The curriculum also includes concrete strategies for health care providers wishing to partner with their patients on improving dietary choices, thereby assisting them in transitioning along a spectrum to a more plant-centric diet focused on whole foods. The original course was taught by dually trained chef-MDs with nutrition expertise. Understanding that this combination of training is rare among health professionals, the curriculum has been adapted to enable a wide variety of health professionals to teach Culinary Medicine in their training programs. The goal is to provide students with lessons about healthy diet, tasty food preparation, and dietary behavior change while teaching them to effectively counsel patients via motivational interviewing to do the same. Because patients come from a variety of backgrounds and food traditions, the curriculum introduces the WFPB diet through the lenses of different world flavors and culinary traditions while keeping in mind resource constraints.

Providing health care professionals with a strong foundation in Culinary Medicine—including what constitutes a healthy diet and how to find, obtain, and prepare healthy and delicious food—is a key part of educating health professionals to support patients in achieving better health outcomes.

The American College of Lifestyle Medicine (ACLM) is the medical professional society for physicians, allied health professionals, health care executives, students, residents, fellows, trainees, and others on the health care team devoted to treating, reversing and preventing chronic disease through lifestyle behaviors as a first-treatment option. Lifestyle Medicine is the use of a whole food, plant-predominant dietary lifestyle, regular physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connection as a primary therapeutic modality for treatment and reversal of chronic disease. ACLM fills the existing void in education and continuing education by equipping and empowering its members to practice evidence-based Lifestyle Medicine through live and online CME/CE accredited events and educational offerings, certification opportunities, clinical practice and reimbursement tools, patient education resources, networking opportunities, and advocacy.

What is Culinary Medicine (and Why is It Important)?

Culinary medicine (CM) is an evidence-based field that brings together nutrition and culinary knowledge and skills to assist patients in maintaining health and preventing and treating food-related disease by choosing high-quality, healthy food in conjunction with appropriate medical care.[1,3] Diet has been identified as the single most important risk factor for morbidity and mortality in the United States,[4] yet most health care providers spend relatively few hours learning about nutrition during their training.[5,6] The nutrition education that is offered is often primarily didactic and focused on the biochemistry of nutrients and health consequences of deficiency states—content that is of limited use in a clinical setting where the majority of the population faces overnutrition due to high intake of ultra-processed, calorie-dense foods. CM fills this educational gap by focusing on practical dietary behavior changes, food knowledge, and cooking skills needed to move toward a healthier diet. Considering potential limitations related to time availability, financial resources, and cultural food traditions is an important part of any successful CM program. CM can be thought of as the applied, laboratory portion of a nutrition curriculum for students and trainees. Such training can be provided as part of the 4-year medical school curriculum, incorporated later as continuing medical education, or included in training programs for those in allied health professional fields.

What is a Whole Food, Plant-Based Diet?

The curriculum highlights a predominantly whole food, plant-based (WFPB) diet, as recommended by the ACLM.[7,8] The WFPB diet is a dietary pattern centered on whole, plant foods including vegetables, fruits, whole grains, legumes, nuts, and seeds. While a number of dietary patterns have been associated with prevention and treatment of common chronic diseases,[9-13] the WFPB diet is the only diet shown to reverse coronary artery disease[14]—a leading cause of heart disease, which is responsible for one in every four deaths for those over age 35.[15] Media reports on nutrition research tend to foster confusion about what makes up a healthy diet by focusing on nuances; however, the vast majority of nutrition scientists and public health experts agree on the health benefits of diets rich in whole, plant foods and low in processed foods.[16-18] Journalist Michael Pollan put it more simply: "Eat food. Not too much. Mostly plants."[19]

Patients encountered in clinical practice will be in different places with regard to level of interest, motivation, and ability to change dietary behaviors. Therefore, the curriculum consists of a predominantly WFPB approach, along with a variety of tools, tips, and techniques that can help patients successfully move along a continuum of increasing whole, plant foods in their diets.

Curriculum Author

Michelle Hauser, MD, MS, MPA, FACLM, Chef

Michelle Hauser, MD, MS, MPA, FACLM, Chef is board certified in internal medicine and completed medical school, internal medicine residency, the Zuckerman Fellowship in Leadership and Public Service, and a Master of Public Policy and Administration degree at Harvard, as well as a Master of Science in Epidemiology and Clinical Research and the Postdoctoral Research Fellowship in Cardiovascular Disease Prevention at Stanford. She is a certified chef via Le Cordon Bleu and a Fellow of the American College of Lifestyle Medicine where she has also served on the Board of Directors.

As Clinical Associate Professor (Affiliated) in Primary Care and Population Health at Stanford University School of Medicine, she teaches medical students nutrition, culinary medicine, and lifestyle medicine; she is also a teaching attending for internal medicine residents, psychiatry interns, medical students, and other trainees. At the Veterans Affairs Palo Alto Health Care System (VAPAHCS), Dr. Hauser practices obesity medicine including a novel series of group medical appointments focused jointly on lifestyle and medical management of obesity. Additionally, Dr. Hauser practices primary care-internal medicine and serves as a teaching attending at both the VAPAHCS (General Medicine Clinic, Palo Alto, CA) and the San Mateo County Health System (Fair Oaks Health Center, Redwood City, CA).

Much of her clinical experience has been within public institutions focused on care for ethnically diverse and underserved populations. After seeing a high prevalence of food insecurity among her patients, Dr. Hauser worked to develop strong community partnerships to address the lack of access to healthy food and practical nutrition education. For these efforts, she won the San Mateo Medical Center Above & Beyond Award, was named Local Hunger Fighter by Second Harvest Food Bank of Santa Clara and San Mateo Counties (California), and was given an honorable mention as Food Hero for the City of Cambridge, Massachusetts. For practicing compassionate care for all, regardless of background, and advocating for the needs of underserved patients, she won the Leonard Tow Humanism in Medicine Award.

Her research, clinical, and community work blend her training in medicine, public policy, nutrition, epidemiology, and culinary arts to focus on improving education and access to delicious, healthy food for medical and allied health professionals as well as the general public. Her research has been published in top medical and nutrition journals, such as the *Journal of the American Medical Association* and the *American Journal of Clinical Nutrition*, and she has been interviewed about all things cooking and health by media organizations such as the *New York Times*, *Bloomberg News*, *CNN, NPR, Stanford Medicine,* and *Harvard Health Publications*. In her spare time, she loves cooking multicultural, plant-based dishes, trail running, hiking, and spending time with her family. She and her husband also created the Chef in Medicine website which aims to share culinary medicine information with the general public.

Curriculum Contributors

Julia Nordgren, MD, Chef is a physician, an expert in childhood obesity and cholesterol disorders, and a trained chef. Dr. Nordgren's clinical practice is at the Palo Alto Medical Foundation, where she sees children of all ages with cholesterol issues, prediabetes, or obesity. She is a passionate advocate of lifestyle medicine, and helps patients succeed at their health goals through nutritious, delicious eating. Dr. Nordgren completed her culinary training at the Culinary Institute of America in 2013. She is the author of the cookbook, *The New Family Table*, a collection of recipes, techniques, and stories about making healthy family eating a reality.

Maya Adam, MD is the Director of Health Education Outreach at the Stanford Center for Health Education and Clinical Assistant Professor in the Stanford Department of Pediatrics. Since 2009, Dr. Adam has been teaching courses focused on child health and nutrition. Many of her courses are available to the general public as massive open online programs on Coursera and have enrolled more than 300,000 learners worldwide. She is also the faculty lead for Digital MEdIC South Africa, a non-profit that produces accessible health education videos for underserved communities in Southern Africa.

Christopher Gardner, PhD, FAHA is a nutrition scientist and the Rehnborg Farquhar Professor of Medicine at Stanford University. For 25 years he has studied what to consume and to avoid for optimal health, and how best to motivate individuals to achieve healthy dietary behaviors. He has conducted and published dozens of human nutrition intervention trials. Current research interests including partnering with chefs and dining operators at universities as part of the Menus of Change University Research Collaborative where university dining halls have become living laboratories for studying strategies to optimize the intersection of taste, health and environmental sustainability.

Tracy Rydel, MD is a family physician who has her clinical practice at Stanford Family Medicine. She is the Director of the Core Clerkship in Family Medicine and is an Educator-4-CARE at the Stanford University School of Medicine. Dr. Rydel completed a fellowship in Integrative Medicine at the University of Arizona in 2010; she emphasizes nutrition, integrative perspectives, and holistic care in her required Integrative Medicine workshop. She is a leading member of the Nutrition Task Force at the School of Medicine, seeking to enhance and expand the nutrition curriculum at Stanford. She has been an instructor in the Teaching Kitchen Elective for Medical Students, FamMed 242: The Doctor Is In (The Kitchen), and she was the recipient of the Stanford University MD Program Award for the Excellence in Promotion of the Learning Environment and Student Wellness in 2019.

Alaina Bever, BS is an MD-PhD candidate at Harvard Medical School and the Massachusetts Institute of Technology. She is a graduate of Seattle University, where she majored in mechanical engineering and biology. Following graduation, she spent two years training in epidemiology as a postbaccalaureate research fellow at the U.S. Department of Health and Human Services, National Institute of Child Health and Human Development, Division of Intramural Population Health Research, and is currently working on nutritional and genetic epidemiology research at the Harvard T.H. Chan School of Public Health. As a future physician-scientist, she is interested in integrating nutrition and lifestyle into clinical education and practice. Alaina co-leads the Harvard Medical School Lifestyle Medicine Interest Group.

Emma Steinberg, MD, Chef Emma Steinberg, MD, FAAP, Chef, is a board-certified pediatrician, and Fellow of the American Academy of Pediatrics, who completed training at Johns Hopkins and the University of California, San Francisco (UCSF). She is also a certified chef via The Institute of Culinary Education. She currently works at Kaiser Permanente Northern California as a pediatric hospitalist and teaching attending, consults for their early intervention pediatric obesity program, and teaches culinary medicine to medical students, patients, and staff. Dr. Steinberg also serves as Culinary Medicine Strategies Consultant for Alameda County, an advisory board member for San Francisco Unified School District's Urban Agriculture Career Academy, and a Champion Provider Fellow for the California Department of Public Health and UCSF.

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–Michelle Hauser

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Introduction

This section of the curriculum defines key terms, outlines conceptual underpinnings, and reviews necessary logistics of creating and teaching a culinary medicine (CM) course. This curriculum is modeled on the successful CM course originating at Stanford University School of Medicine, and has been modified to further highlight the dietary principles supported by the American College of Lifestyle Medicine as outlined in the official position statement: "for the treatment, reversal, and prevention of lifestyle-related chronic disease, the ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts, and seeds."[7,8] Selected recipes or techniques, including other items that may help in transitioning from a Standard American Diet (SAD) to a generally healthy diet, are also included. The SAD is a dietary pattern common in the United States that includes high consumption of ultra-processed foods, refined flours, added sugars, and sodium along with low consumption of vegetables, fruits, whole grains, and legumes.[20] The SAD has been associated with nearly all common chronic diseases in the U.S. and, increasingly, around the world.

This CM curriculum incorporates lessons learned in medical practice caring for diverse patients with varying levels of education and resources. The majority of the population is far from eating a predominantly whole food, plant-based (WFPB) diet[21] and most find it difficult to abruptly change to an entirely new way of eating due to a combination of knowledge, skills, taste preferences, food availability, family demands, financial resources, and time constraints. Given that any level of behavior change can potentially yield improved health and well-being,[22,23] every effort should be made to meet individuals where they are, assess readiness for change, provide assistance, and partner with them to support moving along a spectrum as far and as fast (or slow) as they are willing and able to go from a SAD (or less healthy diet) toward a predominantly WFPB diet. While abrupt and comprehensive dietary changes work for some, using an all-or-nothing approach as the rule, rather than the exception, may deter many patients from starting on a journey toward a more plant-predominant eating pattern. Use motivational interviewing to tailor your assessment, recommendations, and interventions according to a patient's personal goals and readiness for change.[24-26]

This open-source curriculum is written to be used as a basis to create elective CM courses within most types of health professional training programs. As written, student time commitment includes 9 class sessions, each of 2 hours' duration, with an average of approximately 30 minutes of preparatory work for each session. This can be done weekly for those on the quarter system. For those on the semester system, consider dividing class sessions encompassing more than 1 topic—Soups and Salads, for example—into two sessions to give more time to cover the material in detail while sticking with a weekly class schedule. Alternatively, space the sessions out or condense and hold over the span of a couple of weekends. Instructor preparation for each session varies and is indicated in the Instructor's Outline—a detailed guide to leading each course session. Topics and techniques covered include the most common and high-yield healthy cooking techniques that can be easily incorporated into the repertoires of families from a variety of cultural food traditions that are common in the U.S. It is designed to be taught by any combination of instructors who together have expertise in patient care, cooking, nutrition, and using motivational interviewing to assist patients in making behavior changes; examples of instructor team members are given in Examples of Instructors Who Might Teach a CM Course Using this Curriculum.

One should not feel constrained to the course setup or guidelines given in this curriculum. The level of detail is not meant to be prescriptive, but rather to provide details necessary to hold one type of successful CM course. These details are included so those who have never directed CM courses have a solid foundation to build upon. The best courses will be modified to fit a given training program schedule, student needs, cultural considerations of patients in the region, and bandwidth of the instructors.

While the original course was taught to medical students by a combination of dually trained chef-MDs and nutrition scientists, information is provided in this curriculum that will allow those with a variety of types of training to teach a CM course in most health professional training programs. The curriculum does not include comprehensive nutrition information but does highlight resources and key points that are likely to arise while teaching the course. Because patients also come from a variety of backgrounds and food traditions, the curriculum presents a predominantly WFPB diet through the lenses of different world flavors and culinary traditions.

Calorie and macronutrient information are provided for recipes, but the WFPB diet does not emphasize or require calorie or macronutrient tracking. This is because a WFPB diet is relatively low in calorie density (see Calorie Density for more details), and therefore most patients eating this type of diet can eat to satiety and maintain—or even lose–weight. In a recent study, research participants provided with whole foods ate about 500 fewer Calories per day than those provided with ultra-processed foods typical of a SAD diet.[16] Patients who are in the process of transitioning to a more WFPB diet, but are not fully adherent, may need to pay closer attention to calorie intake and portion control to achieve weight loss.

What is Culinary Medicine and Why is It Important?

Culinary medicine (CM) is an evidence-based field that brings together nutrition and culinary knowledge and skills to assist patients in maintaining health, and preventing and treating disease by choosing high-quality, healthy food in conjunction with appropriate medical care.[1,2] CM can be thought of as the applied, laboratory portion of a nutrition curriculum for medical trainees. CM training can be provided as part of medical and residency curricula, training programs for those in allied health professional fields, or incorporated later as continuing (medical) education. Good CM courses address basic healthy food preparation and acquisition (i.e., where to purchase or otherwise get food) skills while taking into consideration time, financial resources, and cultural food traditions of patients aiming to make dietary changes.

The field of CM arose out of a perceived need to make evidence-based nutrition education practical and accessible for everyone. Nearly 80% of the chronic diseases faced by those in the U.S. are preventable through lifestyle changes.[27] Poor diet has been identified as the top contributor to early death and lost healthy life years in the U.S.[4] and dietary risks are associated with 11 million deaths across the globe annually.[28] However, only an average of 20 hours are spent on nutrition content in US medical schools—this is equivalent to approximately one week (or 0.6%) of the total average hours of instruction.[3,6,29] Furthermore, only 25% of medical schools have a dedicated nutrition course and much of the content focuses on biochemistry and micronutrient deficiency states.[2,6] Very little, if any, time is dedicated to helping students learn the components of a healthy diet, how to make a healthy diet enjoyable and practical, or how to effectively counsel patients on making healthy dietary changes.

An additional barrier to effective nutrition education is that instruction primarily occurs in preclinical years, disconnected from patient care.[2] The hands-on, interactive approach to nutrition education used in this CM curriculum engages learners at all stages of training. Whereas preclinical students may not appreciate the importance of dietary counseling skills or use of food as medicine as fully as those at later stages of training, interest in personal health or the health of loved ones may be key motivators for internalizing CM principles. Regardless of stage in training or practice, skills learned in this course can aid health professionals in improving their own and their families' diets. This is particularly beneficial as the literature shows providers are more likely to counsel patients on health behaviors that they engage in themselves.[30] Given most medical and allied health professionals will interact with thousands of patients over the span of their careers, dedicating time to CM during training can potentially have impacts not only at the individual patient level, but also on population health.

Finally, CM principles are relevant to all specialties of medicine and allied health professions. Encourage students taking a CM course to think about how lessons learned might be applied in their specific field or specialty. Invite faculty from a variety of specialties to join a class session and share clinical correlations from their practice with the topic of the day. Patients and families can and should be exposed to CM and nutrition principles, where relevant, in all parts of the health care system they interact with. This is particularly important because behavior change is much easier when there is buy-in from the whole family.

Goals of Culinary Medicine through the Lens of This Curriculum

Most people know that vegetables are good for them; yet, only 1 in 10 children and adults are eating the daily recommended number of servings.[31,32] While there are likely a number of factors at play, a major barrier is that vegetables haven't been presented as delicious and craveable. **A key goal of this CM course is to present healthy food choices as unapologetically delicious.** A key barrier to eating healthy foods is the wide availability of tasty, fast, cheap, unhealthy foods. **Another key goal**

of this course is for students to understand that healthy food can also be tasty, fast, and inexpensive...if you know how to cook and meal plan. For those less worried about financial aspects of their diet and more worried about time constraints, the **lessons learned in this course are translatable to learning how to eat healthier on-the-go and make quick, tasty meals in minutes.**

Specific Goals of This CM Curriculum

1. Discover how to set up a culinary medicine course including:
    a. Type(s) of instructors,
    b. Finding an existing kitchen or creating a pop-up teaching kitchen,
    c. Health and safety considerations,
    d. Key cooking techniques emphasizing WFPB dishes,
    e. Selected nutrition principles to highlight during class sessions,
    f. Course session flow using a flipped classroom model, and
    g. Patient coaching/motivational interviewing role play scenarios.
1. Synthesize how to use CM to move toward a predominantly WFPB diet.
2. Practice making delicious, healthy, WFPB dishes.
3. Utilize CM methods to highlight how WFPB dishes can be tasty, quick, and inexpensive to prepare.
4. Utilize CM methods to learn to eat as healthy as possible while eating out or traveling.
5. Practice coaching/motivational interviewing through role playing to gain confidence in counseling patients on dietary behavior change while taking into account time, financial resources, and cultural food traditions.

How to Use This Curriculum:

This curriculum was designed to provide detailed guidance on how to organize and execute a flipped classroom CM course for medical and/or allied health professional students. A flipped classroom model is one in which much of the didactic content and reading materials are viewed online or read ahead of class in order to allow class time to be spent doing interactive activities—in this case, hands-on cooking and interactive dinner discussions. Most sessions recommend 10-30 minutes of video content, plus recipes and other handouts to be watched/read/reviewed prior to each session. The curriculum is intended to provide an open-source template for instructors seeking to start CM courses at their institution. This curriculum was adapted for the American College of Lifestyle Medicine from the successful Teaching Kitchen Elective Course for Medical Students at Stanford University School of Medicine which was held multiple times as a quarter-long elective course.

Following a similar format to the Stanford course, this curriculum includes:

- Descriptions of personnel and equipment needed for 9, 2-hour long, in-person class sessions,
- Health and safety considerations for CM courses,
- Suggestion for class pre-work (an average of 30 minutes' duration),
- Goals and objectives for students for each class session,
- Flow and content of each hands-on teaching kitchen session,
- Menus, recipes, and handouts for each class session,
- Discussion starters and patient-provider role play examples for interactive dinner discussions,
- Selected nutrition content to highlight during sessions, and
- Suggestions for supplemental materials, videos, references, and other resources.

While many details are given herein, this curriculum is not intended to be a stand-alone CM course guide. This is primarily because not every CM course instructor will have the same training or available resources. Additionally, session pre-work for this flipped classroom course should ideally include instructional videos on culinary techniques as the in-person class time required to demonstrate each cooking technique would be prohibitive in most circumstances. Instructors planning CM courses who are not formally or informally trained in culinary arts may also benefit from previewing these instructional videos prior to teaching each session. If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable healthy cooking program or vetted videos on YouTube—to assign students

to watch ahead of class so they come to class with some knowledge of, or experience with, the techniques to be covered in each session. There will not be time to demonstrate every technique for every class if sticking to the recommended 2-hour class session length. Experience shows that students also prefer to avoid long, didactic demonstrations and start cooking for themselves as soon as possible upon entering the teaching kitchen. Providing as-needed assistance and impromptu demonstrations for important teaching points or more challenging techniques during the course of a session are preferred to longer didactics. However, if you have additional time available, requisite skills, and willing students, you can opt to demonstrate all techniques in-person; 3-hour class sessions would be recommended for this approach.

This curriculum does not include comprehensive nutrition education, rather it highlights selected nutrition topics relevant to each hands-on teaching kitchen session. Oftentimes, highlighted nutrition content includes material that has been helpful in the authors' experience of patient care, but not generally covered in required nutrition courses in health professional training programs. For instructors without nutrition expertise, we recommend partnering with a dietitian knowledgeable about plant-based nutrition. Additionally, instructors should read *The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits* by Dr. Beth Frates and colleagues, paying particular attention to Chapter 2: Empowering People to Change; Chapter 3: Collaborating, Motivating, Goal Setting, and Tracking; and Chapter 5: The Nutrition-Health Connection. Chapters 2 and 3 give background in coaching and motivational interviewing necessary to engage patients around dietary behavior change; Chapter 5 summarizes the nutritional underpinnings of this CM course.

Measurement Units and Systems

This CM curriculum was written in the United States where most home cooks use Imperial measurements in cooking and baking (i.e., teaspoons [tsp] and tablespoons [tbsp] for measuring spoons; cups [c] and pounds [lb] for dry measures; and ounces [oz], cups [c], quarts [qt], and gallons [gal] for liquid measures). Those who cook at home in many countries around the world use the SI/metric system for cooking and baking, while others use a mixture of Imperial and SI/metric systems. Because of the variation between countries in how conversions are done between Imperial and metric systems as they relate to cooking and baking, the text of the curriculum and most handouts do not include conversions. The recipes, however, list ingredient amounts and oven temperatures in both the Imperial measures and SI/metric equivalents. Note that in professional kitchens, baking is generally very precise, and weights are used rather than measuring cups and spoons; these weights can be in either Imperial or SI/metric. However, this curriculum is focused on improving cooking and nutrition among health care providers and those cooking within the home. Therefore, Imperial measurements and SI/metric equivalents as given in the recipes are appropriate for the scope of the curriculum.

How to Use This Introduction:

The purpose of this introduction section is to provide background information needed to teach the course effectively. It is recommended that all instructors read the introduction prior to teaching the course. Additionally, instructors should consider assigning relevant sections of the introduction material throughout the course as it pertains to the topic of the day or as related student questions arise. Alternatively, material from this introduction could be used to support or enhance existing, required nutrition curricula in medical schools—even those without a culinary component.

How to Use Introduction and Curriculum Materials in Required Nutrition Courses or Residency Programs

For those wanting to integrate required CM sessions into their health professional training program core curricula or into residency programs, you will likely have less time available than would be needed to cover all of the material in this curriculum. In these scenarios, you may want to pull a few items from the curriculum to use in class sessions. Based on feedback collected from past students and patients, the most useful culinary items in order of preference were learning knife skills (Session 1), learning to store greens to prevent spoilage and make salad dressings (Session 4), learning to properly season (for details, review Don't Settle for Healthy—Make It Delicious! and Why Some Recipes May Include Small Amounts of Optional Ingredients Limited or Excluded in WFPB Diets), sautéing/stir-frying (Session 2), as well as using dinner discussion scenarios to role play motivational interviewing with patients around dietary behavior changes.

If your nutrition curriculum does not already cover reading and comparing nutrition labels, you may want to include this information from Session 6 and the handouts. Additionally, students and patients have found the following handouts and introduction topics particularly useful; you may want to consider working them into nutrition lessons at your institution.

- Lifestyle Nutrition (Handout)
- ACLM A Whole Food, Plant-based Plate (Handout)
- Eating Healthy on a Budget (Introduction) and Shopping for Healthy Food on a Budget (Handout)
- Calorie Density (Introduction and Handout)
- Tips for Helping Others Move Toward a Healthier Diet (Introduction)
- Cooking Techniques (Handout)
- Tips for Shifting Away from Diets High in Meat and Added Sugars (Introduction)
- Importance of Understanding How Foods and Meals Affect Blood Glucose and Food Choices (Introduction)
- Common Misconceptions about Whole Food, Plant-based Diets: Where Do You Get Your _____? (Introduction)
- Food Facts: New and Improved Nutrition Facts Label (Handout)
- Cultural Considerations (Introduction)
- Eating Mindfully, Not Mindlessly (Handout)
- Tips for Eating Healthy During Group Events (Handout)
- Tips to Eat Healthier When Eating Out (Handout)
- Simple, WFPB, World Flavors Pantry (Handout)

Examples of Instructors Who Might Teach a CM Course Using This Curriculum:

The following is a list of examples of potential combinations of instructors likely to be successful in teaching a CM course using this curriculum. The list focuses on the primary instructors, but it is highly recommended to consider supplementing primary instructors with practicing physician (or applicable allied health care professional) faculty volunteers representing different clinical backgrounds. This is particularly useful if holding the CM course for trainees as they may intend to go into different fields and may benefit from learning how course content is applicable to a variety of disciplines. Instructions for inviting faculty volunteers to participate are given in the Pre-course Emails to Assist Organizing Students and Faculty Volunteers section.

- A professional trained in culinary arts, nutrition, and the health professional background of the students (e.g., one or more nutrition-savvy Chef-MDs)
    - A clinician-educator who is knowledgeable about nutrition and who knows their way around a kitchen should also be able to teach the course with the materials provided.
    - However, teaching the course is a job for more than one person. Even if one has the skills and knowledge to teach the course alone, they should enlist an assistant—ideally trained in one or more of the areas described in this section.
- Two or more instructors trained in complementary fields: this instructor combination should ideally include at least one person with formal or informal culinary training, nutrition expertise, and direct patient care experience in the field(s) the students are training in.
    - Examples include (but are not limited to):
        - Dietitian experienced in cooking plus a health care professional (e.g., dietitian plus practicing physician)
        - Chef plus a dietitian and another health care professional (e.g., a chef, dietitian, and practicing physician)
        - Chef plus a dietitian and several rotating health care professionals (e.g., a chef, dietitian, and several practicing physicians representing different clinical backgrounds)
        - Chef plus a health care professional who also teaches, or is an expert in, nutrition (e.g., a chef and practicing physician who also teaches in an existing nutrition course at the institution)

Key Dietary (and Related) Information Referenced in this Curriculum:

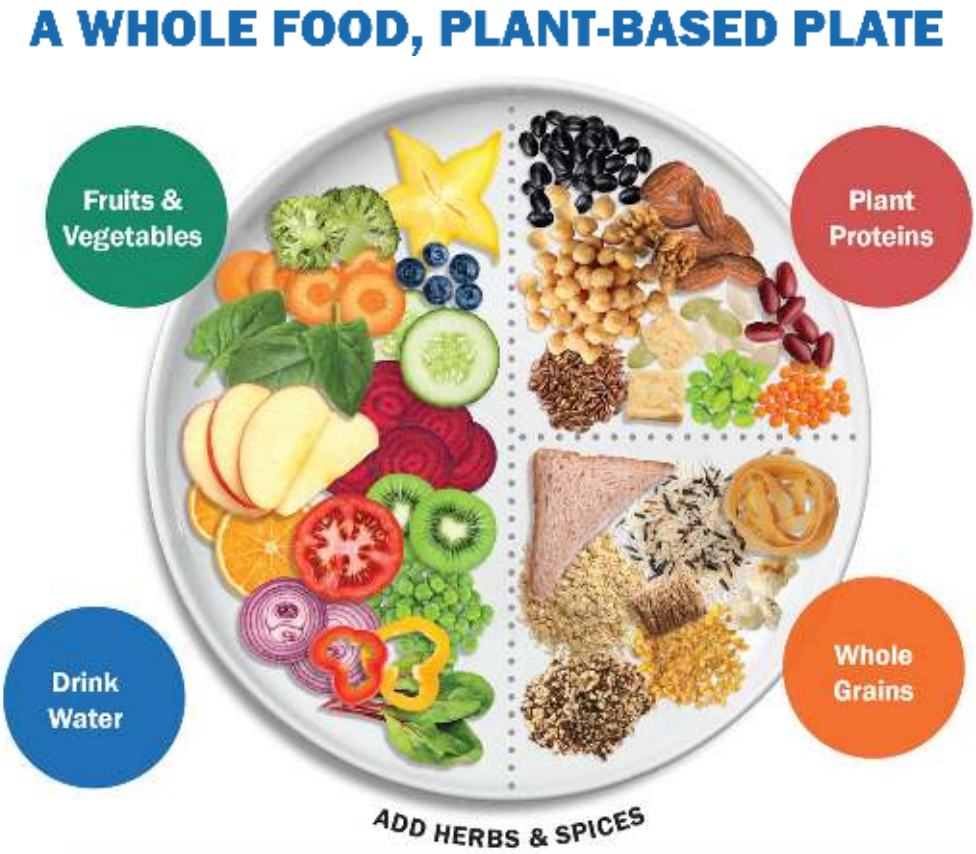
CM versus Nutrition

This curriculum does NOT contain comprehensive nutrition information, and taking a course based on the curriculum will not make you a nutrition expert. It DOES contain useful nutrition information relevant to culinary lessons covered, AND all menu items included in the curriculum are part of an evidence-based, healthy diet. Nutrition is important, however, most patients (and providers!) need practical skills and resources, in addition to nutrition education, to help them move toward healthier, more plant-based diets. For example, when was the last time you met an adult (or even a child) who didn't know vegetables were healthy and that they should eat more of them? Almost everyone knows this, yet the majority of the population falls short on vegetable intake. While the reasons are certainly multifactorial, one key reason is that we have been acculturated to think of healthy and tasty as opposites, to think of vegetables as something that we need to endure to get to the good stuff, and to associate healthy eating with expensive food. Using CM, we instead focus on how to prepare delicious foods, simply, inexpensively, and quickly. Preparing meals at home is the first key step to moving towards a healthier and more affordable diet. The nutrition lessons begin stealthily, meaning that the focus is on learning techniques to prepare delicious, craveable food. Only after the students are hooked by the smells, sounds, colors, and flavors of the cuisine—tasted while sitting around a table with others who worked together to prepare the meal—do the nutrition and counseling lessons emerge and take root.

To learn more about the evidence-based nutrition principles that this curriculum is based on, please read "Chapter 5: The Nutrition-Health Connection" from *The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits,* by Dr. Beth Frates and colleagues.

Tell Me More About a Whole Food, Plant-based Diet

AMERICAN COLLEGE OF Lifestyle Medicine



Includes:

- Vegetables
- Fruits
- Legumes
- Whole Grains
- Nuts
- Seeds

Excludes/Limits*:

- Meat
- Poultry
- Fish
- Shellfish
- Dairy
- Eggs
- Oil
- Refined sugars
- Refined grains

*A *purely* WFPB diet would completely exclude these items. A *predominantly* WFPB diet would have the vast majority of nutrients come from the "Includes" group. The curriculum as a whole adheres to *predominantly* WFPB principles and may include small amounts of items on the "Excludes/Limits" list. Items not strictly adhering to a *purely* WFPB diet are included for reasons outlined throughout the curriculum and, in most instances, alternatives are given for those wanting to prepare them *entirely* WFPB.

Focusing on eating foods from the "Includes" list not only has the benefit of making sure your diet if filled with nutritious food, but also helps to crowd out less nutritious foods. The more whole, plant foods and fewer highly processed, calorie dense, and animal-derived foods one eats, the more health benefits one accumulates (e.g., reduced risk of chronic diet-related diseases, increased longevity, etc.) and the less time one needs to spend worrying about such activities as counting calories or restricting portion sizes in order to maintain or lose weight. Plant foods are also filled with fiber and antioxidants.

Diets high in whole, plant foods have been associated with numerous health benefits, including:

- Decreases in all-cause mortality[33-37]
- Weight loss and favorable changes in lipid profile[38,39]
- Decreased risk, and even reversal, of cardiovascular disease[14,38,40]
- Decreased risk of some cancers[41]
- Reduced markers of early stage, biopsy proven, prostate cancer[42]
- Decreased risk of diabetes[43,44] and improved glycemic control or normalized blood glucose levels for those with diabetes[38,39]
- Improved migraine symptoms[45]
- Numerous other benefits, with new studies coming out regularly

It is important to note that many studies showing benefits of diets high in whole, plant foods are not studying purely WFPB diets. Many (if not most) actually refer to either predominantly WFPB diets, vegetarian diets, vegan diets, pescatarian, or Mediterranean-style diets.

Predominantly WFPB diet: the diet promoted by the ACLM and is a dietary pattern centered on whole, plant foods including vegetables, fruits, whole grains, legumes, nuts, and seeds. Processed foods and animal foods are limited or excluded.

Entirely WFPB diet: a dietary pattern made up entirely of whole, plant foods including vegetables, fruits, whole grains, legumes, nuts, and seeds. It completely excludes meat, poultry, fish, shellfish, dairy, eggs, oil, refined sugars, and refined grains.

Vegan diet (otherwise known as a strict vegetarian diet): is one that includes no animal products (i.e., no meat, poultry, seafood, dairy products, or eggs), but could include any plant-based foods. A vegan diet does not necessarily limit unhealthy processed foods if they are free of animal products. However, most following vegan diets eat healthier than the general public, primarily owing to higher intake of plant foods. A purely WFPB diet is a type of low-fat, vegan diet based on whole foods. A predominantly WFPB diet is not a vegan diet if it includes any animal-derived foods.

Vegetarian diet (otherwise known as a lacto-ovo vegetarian diet): is similar to a vegan diet but includes dairy products and eggs. A vegetarian diet does not necessarily limit unhealthy processed foods provided they are free of animal products that would require an animal to be killed to obtain the food (e.g., meat, poultry, seafood, gelatin, etc.). However, most following vegetarian diets eat healthier than the general public, primarily owing to higher intake of plant foods.

Pescatarian diet: similar to either a vegan or vegetarian diet, but with the addition of fish and/or seafood. Pescatarians do not eat meat or poultry.

Mediterranean-style diet:* Is a predominantly (but not entirely) plant-based diet with staples including whole grains, vegetables, fruits, legumes, nuts, seeds, and plant oils, such as olive oil. Fish and seafood are eaten 2-3 times weekly along with small amounts of dairy, eggs, and poultry. Wine in moderation is also included. Red meat, processed meat, refined carbohydrates, and added sugars are generally avoided. (*There are a variety of Mediterranean diets. This description refers to the type of Mediterranean diet most commonly described in clinical trials, which has been the topic of numerous health-related studies and dietary guidelines. Actual foods eaten do not need to be those found in the Mediterranean region of the world.)

Tips for Shifting Away from Diets High in Meat and Added Sugars

Protein Flip

This term was popularized by the Culinary Institute of America, one of the premier culinary schools in the U.S. It is the practice of flipping the plate from meat-centric to plant-centric. Instead of meat making up the center of the plate with vegetables being the smaller portion or an afterthought, vegetables and other plants become the stars while meat portions get reduced to garnishes or sides. This is a great strategy for patients who are not willing to entirely give up meat but could benefit from reducing intake and/or substituting with plant sources of protein. In a typical meal, one might have eaten a large piece of chicken with a small side salad. In a *Protein Flip*, the portions are reversed. In a *Protein Flip* this meal may become a large salad with added whole grains, legumes, nuts, and seeds to make the salad more filling and increase the protein content while reducing the portion of chicken to 1-2 ounces sliced atop the salad as a garnish.

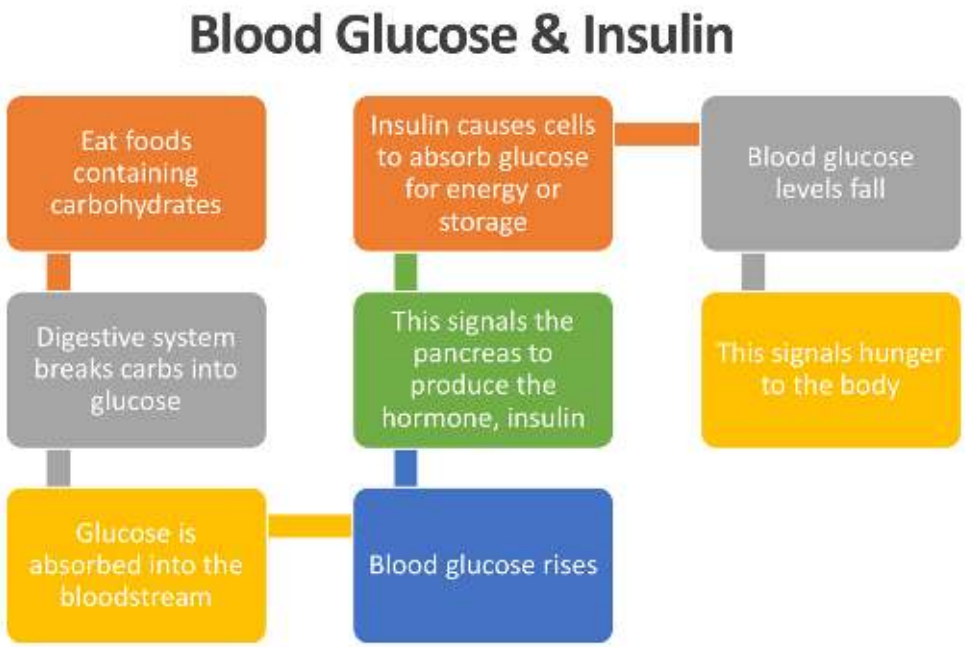
- The *Protein Flip* can be the gateway to healthier foods. This technique is very useful for those who are uninterested or unwilling to cut unhealthy foods—such as red meat—out of their diets completely. It also adds the familiarity of something they associate with deliciousness and satiety (e.g., meat) to foods previously eschewed from the diet (e.g., vegetables). Finding a way to incorporate these healthier foods into the diet helps one to develop a taste for them, making it more likely they will try other vegetables or choose them as a regular part of their diet.
- When making dietary shifts—even if interested in cutting down or cutting out meat and other animal products—cravings for these items can remain intense for quite some time. This makes sense since food is part of culture, memories, and time shared with loved ones. The Protein Flip method of incorporating small amounts of highly craved foods may help some people prevent binging on them after periods of trying to abstain completely. Satisfying a craving can also help some people limit total food consumed because their psychological hunger (a desire to eat for a variety of reasons—such as habit, emotional state, or because something looks or tastes good—separate from physiologic hunger) is quenched. For others, however, controlling portions of these foods is challenging and they may find it easier to completely eliminate them.

Dessert Flip

Trying to reduce the amount of very sweet foods—including artificially sweetened foods—eaten is important for retraining the palette to appreciate the natural sweetness in healthier options, such as fruit. In a typical dessert, one might have a large piece of a decadent sweet garnished with a bit of fruit—think strawberry cheesecake with a sliced strawberry on top. In a *Dessert Flip*, the portions are reversed. The size of the decadent dessert is reduced to just a bite or two and accompanied by a larger arrangement of fresh fruit. This is generally just as satisfying as the original while increasing the nutrient density and decreasing the calorie density. This is because the most enjoyable bites of any dessert are the first and having a couple bites is generally enough to quench a sweet craving at the end of a meal. The *Dessert Flip* is not the same as a healthy dessert, which is one that is nutritious in its own right. Both the *Dessert Flip* and healthy desserts are covered in Session 8 of the course.

While the *Dessert Flip*, like the *Protein Flip*, works well for some to satiate cravings and prevent binging on sugary foods, other individuals may struggle to limit highly palatable foods to a few bites and may prefer to cut added sugars altogether. Work with your patients to find out what works best for them. The overall goal of reducing added sugars in the diet is achieved by both approaches.

Importance of Understanding How Foods and Meals Affect Blood Glucose (i.e., Blood Sugar) and Food Choices



Whenever any food containing carbohydrate is ingested, an increase in blood glucose levels followed by a postprandial insulin response (pictured above) occurs. However, the full effect of this process on the body, health, weight, and well-being can vary dramatically based on the types of food one eats on a regular basis. Eating in a way that causes slow increases and decreases (rather than abrupt changes) in blood glucose over time is better for health for everyone—not just those with diabetes. Highly processed carbohydrate foods set up a cycle of overeating by spiking blood glucose, followed by spiking insulin, followed by a precipitous drop in blood glucose, which then leads to intense, hypoglycemia-triggered hunger (particularly for highly processed, carbohydrate-rich foods). Hypoglycemia (or relative hypoglycemia) results in less-than-ideal, in-the-moment food choices and overeating which perpetuate this cycle and can lead to weight gain and metabolic disease.[46] Stopping the cycle can help reduce cravings for highly processed carbohydrate foods and limit excess calorie intake.

Think of fiber, protein (preferably plant-based), and fat (preferably from whole, plant-based sources) as friends in reducing the impact of foods you eat on this blood glucose spike-plummet cycle.

- Fiber has a myriad of health benefits from being filling and low in calories, to feeding our microbiome, contributing to heart health, and keeping our digestive tracts moving regularly. Fibers found in whole grains, nuts, and avocados also promote the release of the satiety hormone, glucagon-like peptide 1 (GLP-1).
- Protein helps with satiety and with building, maintaining, and repairing body tissues.
- Fats (along with proteins) trigger release of hormones that promote satiety, including cholecystokinin and Peptide YY. Fats are also required for the absorption of fat-soluble vitamins, A, D, E, and K. If eating an entirely WFPB diet or another low-fat diet, make sure to include some type of naturally occurring fats—such as those in nuts, seeds, olives, or avocados—into meals to make sure to absorb these important, fat-soluble vitamins.

Remember to Accentuate the Positive & Use Motivational Interviewing

When counseling on dietary behavior change, it is often helpful for people to begin by highlighting what *should* be included in the diet. For some, simply increasing healthy foods will help to crowd out a substantial portion of unhealthy foods, without any feelings of deprivation. Of course, it is also important to address which foods detract from health and may be contributing to current health issues or future health risks. When doing this, one might consider learning more about regulatory focus

theory and tailoring counseling with patients based on whether a patient places more value on accomplishing a goal (a "promotor") or avoiding a negative outcome (a "preventer") as evidence suggests patients receiving appropriately tailored messages lead to more positive feelings about healthy behavior changes.[47,48] Additionally, adapting a person-centered approach free of blame, such as motivational interviewing, can help a health care provider elicit motivations for, and facilitators of, change. It allows the provider to empathize with patients, while also helping them to work through barriers, ambivalence, or resistance to change.[49] For more on this topic, refer to Chapter 2: Empowering People to Change and Chapter 3: Collaborating, Motivating, Goal Setting, and Tracking in *The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits* by Dr. Beth Frates and colleagues.

Eating Mindfully, Not Mindlessly

Eating mindlessly happens when one is not paying attention to how hungry they are, how much they're eating, or why they're eating. This usually goes along with overeating or eating foods that are less healthy than one would pick when paying close attention. To be mindful, or practice mindfulness, means one is focusing on the present moment and accepting without judgment the bodily sensations, thoughts, and feelings they experience in that moment. Mindful eating, or using mindfulness while eating, occurs when one uses all of their senses to appreciate the food they are eating and pays attention to their hunger and satiety cues. Practicing mindful eating can help one to enjoy food more fully while also helping with weight management. See the handout, Eating Mindfully, Not Mindlessly, for more tips on how to engage in mindful eating and avoid eating mindlessly.

Don't Settle for Healthy—Make it Delicious!

This course teaches how to make healthy dishes delicious and craveable. Humans are wired to seek out delicious food—healthy or not. The best ways to get people to eat more healthy foods and fewer unhealthy foods are to make the former taste as good (or better!) and be as accessible as the latter.

Recipes

When cooking, there is no award for following a recipe to the letter. Many recipes available on the Internet *haven't been tested*. If a recipe from a source of unknown reputation fails, you have no idea if it's you, the ingredients, or the recipe. Learn to trust your gut—if you get a feeling that a dish would be better with a tweak or addition, try it. Recipes are included throughout the course since some people like to follow recipes, while others just like to have a general guide on their cooking journey. Recipes also help course planners/instructors to shop for appropriate amounts and types of ingredients for each session.

Balancing Flavors & Textures

Good cooking begins with tasting and learning to adjust flavors. Begin to taste foods for sweet, salty, bitter, acidic, and umami (savory) flavors. Note whether a flavor predominates or if flavors are balanced. Think about what you ideally want in terms of flavor from a final dish. Do you want something with an acidic tang, or do you prefer a savory, balanced dish? If the flavors of the dish are not where you want them to be, try to balance them using flavoring ingredients with other aspects of taste. For example, if a food is too acidic or bitter, try adding something sweet. If a dish is bland, try adding a few drops of acid, such as lemon juice, vinegar, or hot sauce, and then salt to taste (if using salt). From a culinary perspective, when salting, the optimal level for flavor (without over salting) is achieved when you can taste the flavor of the food toward the back of your tongue but don't get a dry or parched feeling in your throat after eating it. From a medical perspective, to reduce salt intake, consider adding herbs or spices to savory foods or cinnamon, cloves, nutmeg, or ginger to sweet foods to limit the amount of salt that you need to make the dish delicious. Adding a little acid to a dish prior to salting also heightens flavor and can reduce the amount of salt needed.

Texture is also an important consideration. Crisp and crunchy textures stimulate the appetite; this is why most appetizers have a crisp component. Creamy textures can be comforting, but anyone required to eat a pureed diet for any length of time will tell you how boring and unappetizing meals are when every item has the same texture. The best meals incorporate a variety of textures. Textures can have positive and negative associations for some eaters. If someone is averse to a certain food, make sure to explore whether the flavor, texture, or both are issues. Oftentimes, someone may be averse to a vegetable cooked in a way that gives it a certain texture, but enjoy it prepared another way.

Why Some Recipes May Include Small Amounts of Optional Ingredients Limited or Excluded in WFPB Diets

Throughout the recipes and lessons, you may note the occasional use of small amounts of optional sugar, salt, and oil. These items are used solely to bring out, and balance, the flavors of otherwise whole and plant-based foods. They are not used as main ingredients or in large amounts, so the whole of the curriculum is still reflective of a predominantly WFPB diet. The vast majority of the added sugars, oil, and salt in people's diets comes from processed and prepared foods. Transitioning to cooking as much of your own food as possible is the best way to reduce these items in the diet. Even if you add a pinch of salt or sugar to a dish to balance flavors, you will be eating a tiny fraction of what you would have eaten had you chosen to order off the menu at a nearby restaurant. In most instances, alternatives or modifications of cooking methods are given to limit or eliminate these items. Therefore, if you wish to strictly eliminate any use of these items, you should also feel free to do so and omit from recipes.

Sugar

In most foods that are high in added sugars, the purposes of the sugars are to preserve, make hyperpalatable, and add flavor to foods otherwise stripped of naturally complex flavors through ultra-processing. Sugars are not used for these purposes in this curriculum. Sugars used in this curriculum serve the culinary function of balancing flavors, as sugars occur naturally to varying degrees in most foods, particularly by ripeness and season. Think of eating a store-bought, under ripe tomato and recall its slightly sour taste. Contrast that with a sun-ripened tomato from the garden, dripping with juicy sweetness at each bite. There are much more naturally occurring sugars in the latter than the former. In a recipe calling for tomatoes, you can imagine that the end result of dishes made with these two types of tomatoes will taste differently from one another. A pinch of sugar, for example, can help balance the sourness of under ripe tomatoes in a dish so that the result tastes similarly sweet as the dish with the ripe tomato. When adding very small amounts of sugar to food it matters little to health which type (e.g., white, brown, raw, honey, date paste, etc.) you use as most have similar physiological effects. However, in larger quantities, sweeteners have different cooking properties from one another and therefore cannot be used interchangeably without altering other parts of the recipe. Details of how to convert between different types of sweeteners in recipes using large amounts of added sugars are beyond the scope of this curriculum. For those who wish to use minimally refined or wholly natural sugars, you may want to opt for dates, date paste, honey, or maple syrup. Nearly all recipes in the curriculum that call for sweeteners give these options. To make date paste, simply remove the pits from dates and puree in a food processor with just enough boiling water to allow the dates to transform into a smooth paste. You can store extra date paste in the freezer. The high sugar content makes the mixture scoopable when frozen, so you can take out a little to use here and there as needed.

Oil

Throughout the curriculum, oil is optional and limited and its use. For recipes containing optional oil, instructions are given on how to modify cooking methods to achieve the best results if oil is omitted. For those whose main dietary goal is prevention of chronic disease, there is good evidence for a Mediterranean-style diet promoting health; this type of diet includes liquid plant oils. For those aiming to reverse cardiovascular disease or early stage prostate cancer, there is more support for an oil-free (or nearly oil-free) WFPB diet. The reason that oil is limited or excluded from a predominantly WFPB diet is because it is not a whole food. Oil is pressed or extracted from whole foods (such as olives, avocados, nuts, and seeds) to remove beneficial components, including fiber, water, and micronutrients. The resulting oil is calorie-dense and nutrient-poor compared with the original whole food from which it was derived. While this curriculum focuses on a predominantly WFPB diet, optional

oil is included in recipes and lessons because people have a spectrum of health goals, come from different food cultures, and may be at various stages of change with regard to their diet. In cooking, oil facilitates browning and crisping of foods, which imbues complex flavor characteristics. It prevents sticking and allows one to cook vegetables quickly over high heat in ways that maintain their bright colors and crisp textures. For many, it is part of making food irresistibly delicious and can be a gateway ingredient to facilitate getting more vegetables, whole grains, and legumes onto the plates of those who have been reluctant to eat them in the past. For a medical professional planning or taking a CM course, it may be useful to learn to cook both with and without oil so that you can tailor motivational interviewing around dietary behavior changes to a given patient's needs and preferences.

Salt

Salt, which contains sodium, is not specifically restricted in a WFPB diet, but the literature shows that too much sodium intake can be detrimental to the health of those sensitive to it. Evidence-based diets focused on lowering sodium and saturated fat, and increasing plant foods, such as the Dietary Approaches to Stop Hypertension (DASH) diet,[50,51] have been shown to reduce blood pressure, heart attacks, and strokes. More than 70% of the sodium people get in their diets is from processed and prepared foods, while only about 5% comes from salt added while cooking, and another 5% from salting at the table.[52] From a culinary perspective, salt is included in the curriculum because it helps transfer the flavors in foods to your taste buds. If one were to make all of their food at home with whole foods and salt to taste, they would likely consume only a small fraction of the sodium eaten by someone who consumes many processed and prepared foods. That said, most dishes in the curriculum do utilize a variety of ingredients (e.g., spices, herbs, acidic ingredients) and cooking techniques that amp up flavor in order to reduce the reliance on salt to enhance flavor. If you want to avoid all added salt, make sure to increase the other flavoring ingredients in the dish and/or consider adding a squeeze of lemon or some additional herbs and spices to bolster flavor. There are many salt-free dried herb, spice, and vegetable blends available commercially for this purpose.

Common Misconceptions About WFPB Diets

Where do you get your _____?

This question needs no explanation for anyone who has followed WFPB, vegetarian, or vegan diets at any point in their lives. Growing up in a society in which we're taught to drink milk to build strong bones, and a big hunk of meat is generally the center of the dinner plate, well-meaning family members and friends worry about the health of those that forego these items. However, the literature clearly shows well-planned vegan and vegetarian diets provide all necessary nutrients. According to the Academy of Nutrition and Dietetics, "vegetarian, including total vegetarian or vegan, diets are healthful, nutritionally adequate, and may provide health benefits in the prevention and treatment of certain diseases." The American Association of Pediatrics has also published a detailed manuscript regarding vegan diets in infants, children, and adolescents with details on how to make sure all necessary nutrients are included in sufficient amounts.[53]

A balanced, calorically appropriate diet based on a variety of whole foods including vegetables, fruits, legumes, whole grains, nuts, and seeds is also generally sufficient in macronutrients and micronutrients. In fact, it is easier to be *sufficient* in most of the nutrients of concern when following a WFPB diet than most typical diets.[20] Notable exceptions are Vitamins B12 and D which are common deficiencies among those eating nearly any type of diet.[54-57]

Selected details follow about nutrition questions likely to arise in courses or conversations promoting WFPB diets.

Where do you get your calcium?

Calcium is a key mineral involved in human health and is best known for its role in promoting bone health. The daily recommended dietary allowance (RDA) for calcium from the Food and Nutrition Board at the Institute of Medicine of the National Academies ranges from 1,000 mg to 1,300 mg, depending on age, for those aged four years and older. For many,

calcium is thought to be synonymous with dairy, and to eschew dairy is to be deficient in calcium intake—not true! Taking a moment to think about milk intake, it makes sense that adults would not need dairy. Mammals, including humans, wean well before adulthood. Therefore, it would be poor design for humans to need lactation products from another mammal (such as dairy milk from cows) to survive, particularly in their adult years. There are plenty of other sources of calcium beyond dairy products in the diet. Plant foods that are good sources of calcium include tofu, tempeh, dark green vegetables, beans, almonds, and fortified plant-based milks. See the Amounts of Calcium in Dairy and Non-dairy Foods handout for more details. Many people, regardless of dairy consumption, need additional calcium for medical reasons; this can be eaten in the forms of naturally calcium-rich foods and fortified foods, or taken as supplemental calcium. Calcium is incorporated into dairy products in a variety of ways including (1) from the plants that cows eat, (2) calcium supplementation of cow feed, (3) or calcium fortification. Humans can either eat plants or take supplements just as well as cattle. Bonus: avoiding intake of dairy and beef helps to limit greenhouse gases, deforestation, and other negative environmental impacts.[58]

Where do you get your protein?

From nearly all foods that we eat, is the answer. Contrary to popular belief, meat does not have a monopoly on protein. Those eating a calorie-sufficient, balanced, plant-based diet will get plenty of protein. Evidence-based food guidelines, such as Canada's Dietary Guidelines, published January 2019, support moving toward more plant-based diets.[59] Similar to the Canadian Food Guide, The ACLM WFPB Plate (shown on page 18) highlights WFPB protein options. Note that the U.S. Dietary Guidelines for Americans are influenced by a variety of industry lobbyists and are not wholly evidence based.

Those not eating plant-based diets generally consume far more protein than is necessary. People in the United States consume more total and animal-based protein per capita than any other country in the world.[60,61] Although protein is an essential macronutrient, consuming excess protein does not lead to bigger muscles, better health, or improved weight-loss outcomes. Excess calories from protein or any other macronutrient will be stored as fat. The overconsumption of animal-protein in particular may be deleterious for the environment as well as one's health.[62-64] Aim to make plant-based sources of protein a bigger part of the diet. Legumes, beans, tofu, and tempeh are all good plant-based sources of protein. Whole grains and vegetables contain some protein as well. For example, 100 Calories of broccoli contains 8 grams of protein. Recall that in an entirely WFPB diet, plant-based proteins are 100% of proteins consumed. In a predominantly WFPB diet, if including animal sources of protein, it is still advisable from a health perspective to limit portion sizes and avoid red and processed meats. Of note, poultry and eggs also have the smallest environmental footprint of all animal sources of protein, whereas beef and dairy have the largest.

Where do you get your OMEGA-3 fatty acids? What about Omega-6 fatty acids?

Omega-3 and Omega-6 fatty acids are essential fatty acids, meaning the body cannot make them endogenously and they must be consumed from food sources or supplements.

Consumption of Omega-3 rich foods is associated with a variety of improved health outcomes.[63] The health effects of consuming plant sources of Omega-3 fatty acids have not been studied as extensively as other sources, however evidence suggests comparable benefits.[66] Like calcium to dairy, Omega-3 fatty acids are thought to be synonymous with fish, since fish is a common source of Omega-3 intake in many diets. However, just as cows don't make calcium, fish do not make Omega-3 fatty acids. Instead, fish concentrate the Omega-3's they ingest from algae and other green, aqueous plants (or the smaller fish they ate that were eating these greens). Humans can get Omega-3's from algal sources as well, but this often isn't palatable in the quantities required. Instead, opt for walnuts, chia seeds, hemp seeds, ground flaxseeds or take an algal-based Omega-3 supplement if choosing to follow an entirely WFPB diet. For those following a predominantly WFPB diet who choose to incorporate some fish, opt for sustainable and low-mercury, low-contaminant options as mercury and contaminants may counteract some of the benefits of the Omega-3's in fish.[65] These options can be found using the Seafood Watch application created by the Monterey Bay Aquarium (https://www.seafoodwatch.org/).

Omega-6 fatty acids are found in plant oils and are therefore abundant in processed and fast foods. Omega-6 fatty acids are commonly found in such whole foods as nuts and seeds, and in smaller amounts in olives and avocados. There is some controversy about the role omega-6 fatty acids play in health. Farvid and colleagues published a systematic review and meta-analysis of prospective cohort studies comparing Omega-6 intake with risk of coronary heart disease that is worth reviewing if time permits.[67,68]

Where do you get your Vitamin B12?

Vitamin B12 rich foods include meat, poultry, fish, seafood, dairy products, eggs, and fortified foods, such as breakfast cereals and most plant-based milks. Much like the Omega-3 fatty acids found in fish, Vitamin B12 is not made by animals, but is concentrated in their tissues. Vitamin B12 is only made by bacteria and archaea; it is found in foods only through the interactions of these bacteria and archaea with animals and plants. Those following a WFPB diet can get vitamin B12 from fortified foods (e.g., most plant-based milks and cereals), nutritional yeast, or nori; otherwise, supplementation is needed. However, most people with Vitamin B12 deficiency are deficient due to non-dietary factors affecting absorption such as autoimmune diseases, gastrointestinal diseases or surgeries, certain infections, certain drugs, and other causes.[54-57] Anyone with a medical or dietary cause of Vitamin B12 deficiency needs supplementation.

Where do you get your Vitamin D?

Vitamin D deficiency is highly prevalent and has little to do with diet as most Vitamin D (which is actually a hormone and not a vitamin) is made in our skin through a reaction with the sun.[69] For those living more than 37 degrees latitude north or south of the equator, Vitamin D is only made via sun-exposed skin between late spring and early fall, not in the cooler months. For reference, the 37th north parallel runs through the middle of the United States, Mediterranean Sea, Middle East, and Japan; the 37th south parallel runs through southern Chile and Australia. Most people who don't make enough Vitamin D need supplementation since few people get enough from diet alone, regardless of the type of diet they eat. In addition to location, the following also increase the risk of vitamin D deficiency: obesity, cancer, darker skin pigmentation, pregnancy, institutionalization, and anyone with limited sun exposure. Dietary sources of vitamin D include fortified foods (dairy and plant-based milks), oily fish and seafood, egg yolks, mushrooms, animal fat, and liver. For those eating entirely WFPB diets, the main dietary sources of Vitamin D are mushrooms and fortified foods, such as plant-based milks.

Where do you get your Iron?

Iron deficiency is prevalent throughout the world and affects women and children much more commonly than men. The global prevalence of iron deficiency among women is 25 percent. The main causes of deficiency are low dietary intake, reduced absorption, and blood loss. In developed countries, blood loss is the predominant cause, whereas dietary intake plays a larger role in developing countries.

Iron is perhaps one of the most interesting minerals in the diet as numerous factors affect our absorption and homeostasis.[70] There are two types of dietary iron—heme and non-heme iron. Heme iron is present solely in animal foods as it comes from hemoglobin and myoglobin. Non-heme iron is present in both plant and animal foods. Heme iron is more readily absorbed than non-heme iron and this absorption is not subject to as many checks and balances as non-heme iron. Depending on iron balance, this can be a good or bad thing. Additionally, the literature has shown association of heme iron intake with increased risk of coronary heart disease,[71] breast cancer,[72] esophageal cancer, and stomach cancer.[73] Non-heme iron absorption depends on the current iron balance in the body and is affected by inhibitors (e.g., phytates, polyphenols, calcium, proteins) and enhancers (e.g., ascorbic acid, muscle tissue, non-digestible carbohydrates) of absorption. Ascorbic acid (aka. Vitamin C) is the best enhancer of iron absorption for those eating plant-based diets.[70] Deficiencies of riboflavin and Vitamin A, chronic inflammation, and obesity can also lead to iron deficiency through a variety of mechanisms.

For those getting the majority of their iron intake from plant-based, non-heme sources, the following are some tips to help you consume and absorb more iron:

- Eat plant-based foods containing iron such as beans, tofu, dried fruits, greens, oatmeal, quinoa, amaranth, olives, mushrooms, unpeeled potatoes, nuts (cashews, pine nuts, macadamias) and seeds (pumpkin, sesame, hemp seed, flaxseed), dark chocolate, and fortified grain products like breads and cereals.
- Eat foods with ascorbic acid (aka. Vitamin C) with iron-containing foods to increase absorption. Vitamin C rich foods include citrus, pomegranate, tomatoes, cantaloupe, kiwi, broccoli, cauliflower, peppers, papaya, berries, lychee, pineapple, mango, green leafy veggies, and guava. Vitamin C degrades quickly with cooking and storage, so make sure to eat these foods fresh or shortly after cooking to get the most Vitamin C.
- Eat a variety of dark greens rather than relying on just one type. Don't rely solely on spinach for iron. While spinach contains many healthful nutrients, the oxalates in spinach interfere with absorption of iron. The techniques included in this section can help with iron absorption from spinach to some degree; however, it is better to opt for other dark, leafy greens if specifically looking for good sources of absorbable, non-heme iron.
- Cook in cast iron using acidic and/or ascorbic acid rich ingredients.
- Avoid coffee, tea, and wine with meals as polyphenols and tannins interfere with iron absorption.
- Avoid calcium supplements (or calcium-rich foods) one hour before and 2 hours after iron supplements or iron-rich foods to prevent the calcium and iron blocking the absorption of each other.
- For infants, beans and lentils are an ideal first food (beginning at age 6 months and beyond) because they are rich in iron.

Where do you get your Fiber, Folate, Potassium, Magnesium, and Vitamins A, C, and E?

OK, so maybe no one will ask you where you are getting these nutrients—but maybe they should. The SAD and other unhealthy diets that lead to overweight, obesity, and other chronic diseases are generally low in these nutrients and high in saturated fat, cholesterol, sodium, added sugars, and ultra-processed foods.[20] Eating a balanced, predominantly WFPB diet means that you will not need to worry about getting enough of these nutrients often lacking in less healthy diets.

What About Popular Diet Trends (e.g., Paleolithic, Ketogenic, etc.)?

These are not covered in detail in this curriculum, but will no doubt arise in discussions of diet and health that take place in any CM course you teach or take. The WFPB diet along with numerous other dietary patterns (e.g., Mediterranean diet, Paleolithic diet, etc.) have more in common than they have in difference—namely the principles of replacing highly-processed foods with plants and whole foods. The Paleolithic diet stems from an idea of returning to a diet similar to that which was eaten by hunter-gatherers during the Paleolithic Era. Similar to a WFPB diet, the Paleolithic diet emphasizes whole foods and the elimination of dairy products and ultra-processed foods. However, the Paleolithic diet allows meat, fish, poultry, and eggs, while disallowing legumes and whole grains. Of note, the true hunter-gatherer diet of the Paleolithic Era was quite different from the diets of most who follow more modern Paleo-type diets. Hunter-gatherers ate very high fiber diets (approximately 150g per day), primarily due to high intake of uncultivated vegetables, fruits, nuts, and seeds.[74] Ketogenic diets bear little resemblance to WFPB diets with their only overlaps being dark leafy greens, limited amounts of non-starchy vegetables, and plant-based sources of fat such as avocados, olives, nuts, and seeds. True ketogenic diets aim to put the eater in a state of ketosis, switching from using glucose to burning fats as the predominant source of energy. This generally requires cutting carbohydrate intake to less than 40 grams per day and the presence of ketones is measured by urine dipstick. Ketogenic diets are made up of roughly 5% carbohydrate, 25% protein, and 70% fat.[75] Those in ketosis are more likely to experience constipation, diarrhea, muscle cramps, weakness, rashes, bad breath, and headaches than those on other, lower fat diets who are not in ketosis.[75]

A WFPB diet and other diets high in whole, minimally processed ingredients and plant-foods have been shown to promote health and longevity, prevent, treat, and even assist in the reversal of many chronic diseases.[34,37-45] When popular diet trends inevitably come up in class or patient counseling, it is important to draw upon lessons learned in this course to dispel

myths and emphasize the healthful parts of any diet. In the author's experience, most people's diets can be improved by incorporating more whole, plant foods and cutting out highly-processed foods[76]—start with these topics if you can't find common ground with regard to type of diet.

What About Gluten?

Gluten is not unhealthy for the majority of the population. It includes a type of protein that naturally occurs in wheat, rye, barley, and triticale, but can be present in many foods through cross-contamination. Gluten is only problematic for those with celiac disease or gluten sensitivities. Many people who follow gluten-free diets have neither of these conditions and in following a gluten-free diet are unnecessarily limiting their dietary choices. The prevalence of celiac disease varies widely among different populations and is most common among those of European descent (about 0.5-1.0% of screened populations).[77] In some studies, most cases found with screening were symptomatic with intestinal symptoms, iron deficiency anemia, or minor, nonspecific symptoms.[77] A diet that is gluten-free is not inherently healthy as many highly processed foods are now made without gluten. A healthy, gluten-free diet follows the same principles as a generally healthy diet, minus gluten-containing foods. Most of the recipes for this curriculum are gluten-free or can be easily made gluten-free. Make sure to substitute tamari for soy sauce when cooking gluten-free as soy sauce contains wheat. Note that for those with celiac disease or severe gluten intolerance, gluten-free utensils and a gluten-free kitchen may be required to ensure that a meal is truly gluten-free.

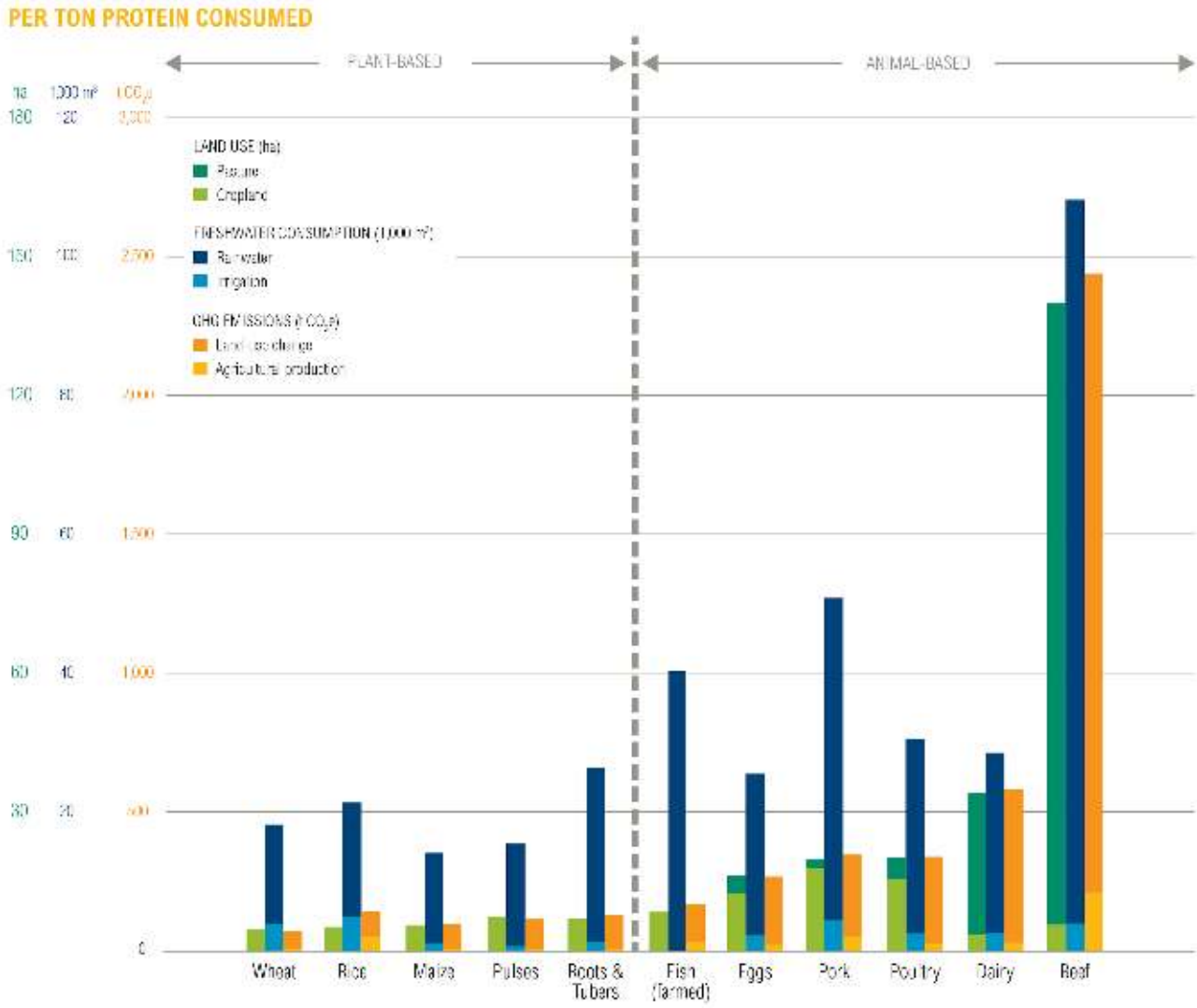
Sustainability vs. Health

While many interested in dietary changes are seeking health benefits such as disease treatment or prevention, improved vitality or longevity, many are also interested to learn that the same dietary choices that improve human health are also good for the planet. This is particularly true of any diet that increases whole, plant foods and decreases animal foods, such as a WFPB diet. A major initiative at the intersection of nutrition and environmental health, the EAT-*Lancet* Commission, concluded that the ideal diet for both human and planetary health involves a greater than 50 percent reduction in consumption of red meat and added sugars, with replacement by plant foods such as fruits, vegetables, legumes, and nuts.[78,79] Knowledge regarding the environmental impact of dietary choices may be a particularly strong motivator for some to reduce meat consumption, and is worth exploring with selected patients as a motivator for dietary behavior change.

The impact of dietary choices on the environment is multifaceted and includes elements of production (e.g., land management, water, other resources, and greenhouse gas emissions), transportation, and the materials used in food packaging. In terms of resources and greenhouse gas emissions, data show that the production of beef and other red meat requires twice as many resources as nearly all other food products per amount of protein produced.[63,80] Food production contributes 25% of total greenhouse gas emissions, with 50% of these emissions being attributable to beef and red meat.[81] Fish, eggs, poultry, and dairy each consume more resources and contribute more significantly to greenhouse gas emissions than whole, plant foods. Replacing red meat with WFPB dishes has the potential to improve both personal health and environmental health. According to the 2019 Intergovernmental Panel on Climate Change, by 2050 the impacts of moving to plant-based diets could include freeing up several million square kilometers of land and reducing greenhouse gas emissions—namely carbon dioxide—by eight billion tons per year. A note of caution is warranted, however, as highly processed vegetarian and vegan meat and dairy substitutes have much greater environmental impacts than whole, plant foods.[82]

In addition to the reduction of meat consumption, the elimination of processed and packaged foods leads to a reduction in greenhouse gases and waste by reducing the total burden of disposable packaging. Shopping for local produce and other local food items at farmer's markets and stores reduces additional greenhouse gases used in transportation of food. Bonus: local produce tends to be fresher and tastier, too! Learning to purchase the proper amount of food and using fresh produce before it spoils can also benefit the environment and your pocketbook by reducing food waste.

Animal-Based Foods Are More Resource-Intensive than Plant-Based Foods



wri.org/shiftingdiets

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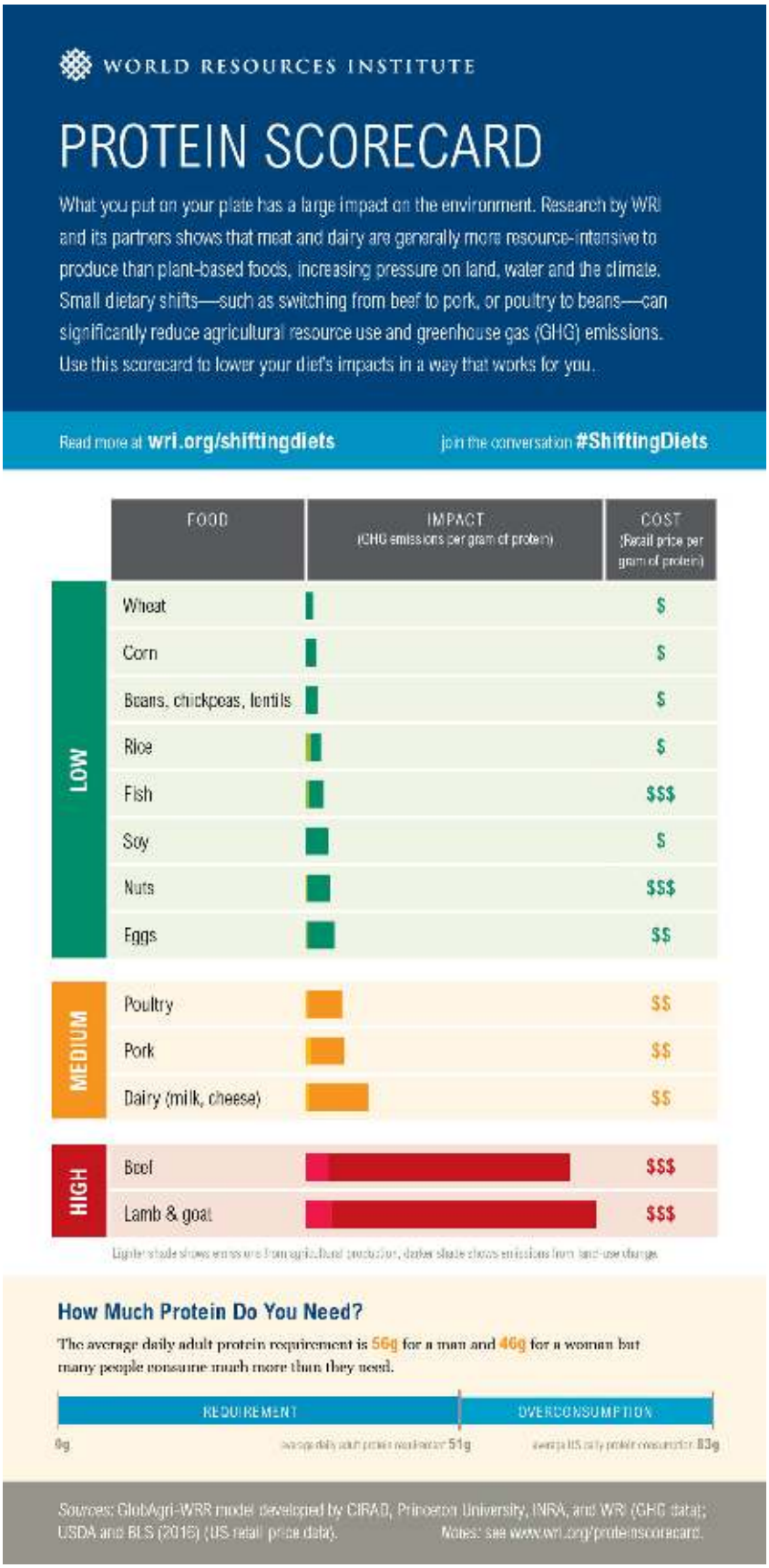

WORLD RESOURCES INSTITUTE
PROTEIN SCORECARD
What you put on your plate has a large impact on the environment. Research by WRI and its partners shows that meat and dairy are generally more resource-intensive to produce than plant-based foods, increasing pressure on land, water and the climate. Small dietary shifts—such as switching from beef to pork, or poultry to beans—can significantly reduce agricultural resource use and greenhouse gas (GHG) emissions. Use this scorecard to lower your diet's impacts in a way that works for you.
Read more at wri.org/shiftingdiets
join the conversation #ShiftingDiets
FOOD
IMPACT (GHG emissions per gram of protein)
COST (Retail price per gram of protein)
LOW
Wheat $
Corn $
Beans, chickpeas, lentils $
Rice $
Fish $$$
Soy $
Nuts $$$
Eggs $$
MEDIUM
Poultry $$
Pork $$
Dairy (milk, cheese) $$
HIGH
Beef $$$
Lamb & goat $$$
How Much Protein Do You Need?
The average daily adult protein requirement is 56g for a man and 46g for a woman but many people consume much more than they need.
REQUIREMENT
OVERCONSUMPTION
0g
average daily adult protein requirement: 51g
average US daily protein consumption: 83g
Sources: GlobAgri-WRR model developed by CIRAD, Princeton University, INRA, and WRI (GHG data); USDA and BLS (2015) (US retail price data).
Notes: see www.wri.org/proteinscorecard.

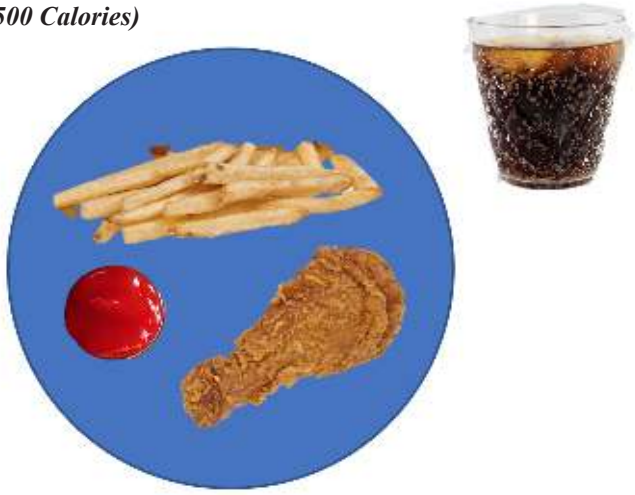
Calorie Density

Calorie density is the number of calories per a given weight of food. Most of the time, calorie density is calculated as Calories per 100 grams of food. While memorizing the exact calorie density of foods is unnecessary, being familiar with which types of foods are comparatively high and low in calories is important. Calorie density is related to the amount of water and fiber in a food—the more water and fiber, the fewer calories per volume of food. Note: Foods high in water and fiber content are also generally high in nutrient density (i.e., are good sources of vitamins, minerals, and phytonutrients) as well.

The plates shown below are examples of high and low calorie density meals. Notice how much more filling the low calorie density meal appears.

Meal with HIGH Calorie Density (500 Calories)

1 fried chicken drumstick
1 small order of fries
1 packet ketchup
4 oz. cola (1/3 can)



Meal with LOW Calorie Density (500 Calories)

3 bean & vegetable croquets
½ cup brown rice pilaf
1 small side salad with 1 tsp dressing
½ cup fresh fruit
1 large glass unsweetened iced tea

The following chart gives categories of foods that are low, moderate, and high in calorie density.

Low Calorie Density
Non-starchy Vegetables*
Fruits
Moderate Calorie Density
Starchy Vegetables**
Whole grains
Beans, Legumes
Plant-based Dairy Substitutes
Low-fat Dairy
Lean Proteins
High Calorie Density
Nuts & Seeds
Higher Fat Meats
Cheese & Full-fat Dairy
Liquid fats (oils)
Solid fats

Note: table shows a variety of food categories for reference, not just those emphasized in a WFPB diet.
**Non-starchy vegetables include peppers, leafy greens, broccoli, cauliflower, zucchini, tomatoes, celery, herbs, onions, mushrooms, eggplant, etc.*
***Starchy vegetables include corn, peas, butternut squash and other winter squashes, potatoes, carrots, parsnips, and other root vegetables, etc.*

To lose weight without feeling hungry, try to make most of your food choices low or moderate in calorie density. Those trying to maintain weight should still base their diet on low and moderate calorie density foods but can incorporate more high calorie density options than those trying to lose weight. For those needing more calories or to gain weight, incorporate more high calorie density options—nuts and seeds, avocados, and olives being the healthiest among the options. Doing this will allow you to meet weight loss, maintenance, or gain goals without feeling overly hungry or full. Forks Over Knives has created a great illustration of this comparing how full one's stomach might be after ingesting 500 Calories of food of varying calorie densities. See the Handouts section for other calorie density graphics and resources.

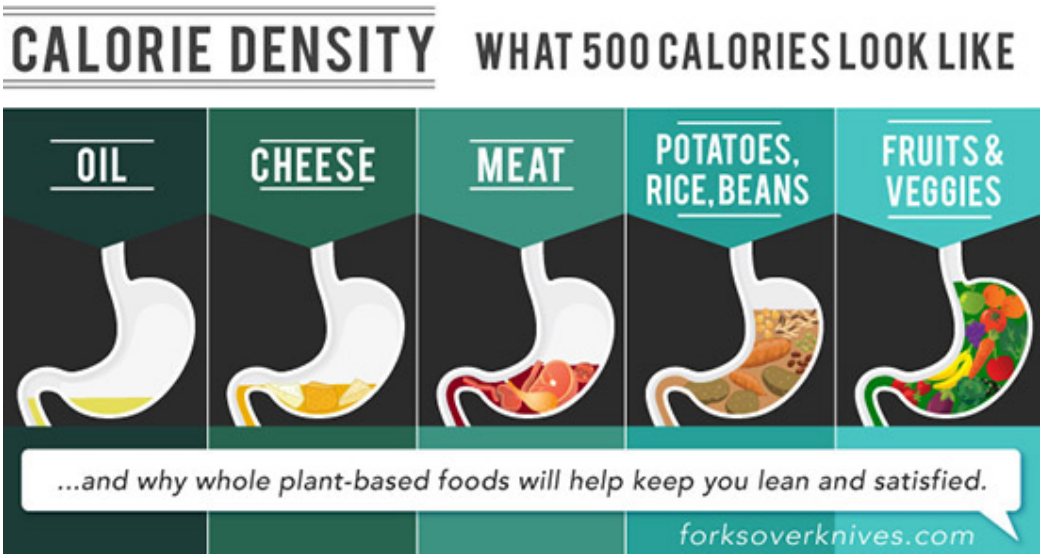


Image courtesy of Forks Over Knives

Tips for Helping Others Move Toward Healthier Diets

- Most people's diets can be improved by incorporating more plant foods and cutting out highly-processed foods—start with these topics if you can't find common ground with regard to type of diet.
    - Most evidence-based healthy diets have the following in common:
        - Eat plenty of fresh produce every day.
        - Focus on plant foods to increase fiber, vitamins, and minerals in the diet.
        - Cut out highly processed foods—those high in sodium, processed grains, added sugars, and solid fats.
        - Limit or cut out red and processed meat and focus on healthier protein options.
        - Eliminate sugar-sweetened beverages and juices—make water your drink of choice.
- Portion size: for those following a SAD, or other diets high in energy dense foods, limiting portion size is a must to maintain or lose weight. However, those following a WFPB diet do not generally need to worry about portion size as the diet is lower in calorie density and therefore one will feel full after eating fewer calories. For many, the idea of getting to eat whatever volume of food they wish is appealing—particularly those who have tried diets that have left them feeling hungry. The caveat is that this is true for only those who generally have intact hunger and satiety cues.
- For those trying to lose weight, manage blood sugar, or maintain energy throughout the day, make sure meals and snacks include foods that contain fiber, healthy proteins (ideally plant-based), and healthy fats (ideally from whole, plant foods). This is described in more detail in the "Importance of Understanding How Foods and Meals Affect Blood Glucose and Food Choices*"* section.
- Know that healthy food can be delicious and present it as such. If patients aren't finding healthy food to be delicious, work with them to figure out what the specific issues are or refer them to someone who can. Generally, altering cooking techniques, seasonings, or substituting other food options can address this issue.
- For those with uncontrolled cravings for sweets and starchy foods, address healthy eating patterns and mindful eating, reduce highly processed foods, and evaluate for undiagnosed sleep apnea if risk factors or symptoms are present, address stress levels, and look at medication lists to see if any promote weight gain (and swap for alternatives, when possible).
- If psychological hunger (i.e., emotional eating) is getting in the way of a patient's goals for making dietary changes, work with them to address these cravings. Sometimes a much smaller than usual portion of a food or an alternative, healthier option with a similar flavor profile may help quench the craving and allow them to achieve or maintain dietary goals.

- Practice mindful eating; avoid mindless eating.
- Learn to cook and eat together as a family. Incorporate all family members in shopping and meal planning processes. Discuss healthy lifestyle and set goals together.
- For those on a budget, share the Shopping for Healthy Food on a Budget handout and review tips for eating healthy on a budget that follow.

Eating Healthy on a Budget

For many individuals, a significant barrier to healthy eating is cost. Foods higher in *nutrient* density, such as fruits and vegetables, are associated with higher per-calorie costs than refined grains and sweets.[83] Additionally, the extra time required for preparing and cooking healthy meals may make healthy eating seem more difficult for those with limited time and money. Although the relatively low *calorie* density of whole, plant foods can be beneficial in maintaining a healthy weight while feeling satiated, eating a WFPB diet may also make it difficult for some with very limited food budgets (e.g., those using safety net food programs such as food banks or governmental food assistance) to achieve adequate caloric intake on a budget. In addition, the investment in equipment necessary for cooking, as well as access to a kitchen, may be obstacles for some individuals. However, those with even a modest food budget can eat a predominantly WFPB diet—if they know how to cook, meal plan, and have access to a kitchen.

Counseling patients on adopting a healthier diet requires not only an understanding of culture, nutrition, and cooking skills, but also an understanding of how economic barriers contribute to underconsumption of healthy foods. A key step when working with patients is to acknowledge cost as a barrier to healthy eating, and to discuss individual concerns and limitations with patients when introducing steps toward a WFPB diet. The approach to dietary behavior change used in this curriculum—one of moving along a spectrum toward a healthier diet—is particularly useful in working with those of limited means because it acknowledges the varying levels of difficulty that people face in making dietary changes, encourages changes of any size, and acknowledges that any step toward healthier lifestyle is positive and beneficial.

Although fresh, whole foods might cost more per calorie than highly processed foods, there are ways to make a healthy diet more affordable for those with limited food budgets. These include:

- **Don't buy prepared foods.** Whole plant foods can actually be quite inexpensive if purchased in their unprepared states. The grocery bills really add up when purchasing prepared or partially prepared dishes made with these same ingredients.
- **Learn to cook and do it often.** Find the time and learn the skills needed to cook. The more you cook, the healthier you'll eat and the less money you'll spend.
- **Buy in bulk.** Many dry pantry staples, such as grains, legumes, nuts, and seeds, can be purchased in bulk at grocery stores and supermarkets. When purchased in bulk, these items are usually lower cost than pre-packaged staples. For fresh items, make sure to buy in bulk only if you can use the quantity purchased—either by eating fresh or freezing—before it spoils. Some people buy fresh in bulk and split with others in their neighborhood or community.
- **Buy just what you need from bulk bins.** Rather than large amounts, "bulk" can also refer to bulk bins (or jars), such as those at markets that allow you to buy just what you need. This is great for herbs or spices that are expensive to buy as a full jar and may go otherwise unused on a shelf. Bulk bins are also nice when trying new beans or grains to make sure you like them before committing to buying larger quantities.
- **Avoid food waste.** Know what fresh items you have and make a plan to use or freeze them.
- **Turn cooking into a social activity and practice meal prepping.** Because lack of leisure time is a key barrier to healthy eating, frame cooking as an activity that the whole family can participate in. This may make it more appealing to those who currently see cooking as a time-consuming activity that doesn't fit into their busy schedule. Similarly, strategizing how to meal prep to efficiently prepare several meals in advance may be appealing to those who do not have time to cook on a daily basis.

- **Don't pay for beverages.** Water is the healthiest drink and most tap water is safe and (almost) free. If you do purchase beverages, stick with unsweetened coffee and tea that you make at home. These options are naturally sugar-free and nearly calorie-free.
- **Avoid meat.** Meat is expensive; eating less can save you money and improve your health. Opting for plant-based proteins in their unprocessed or minimally processed states—such as legumes or tofu—will benefit your budget and your health.
- **Buy in-season and look for sales.** These are great strategies to save money on produce. Similarly, look for grocery stores in your area that carry produce that has limited shelf-life remaining to find steep discounts.
- **Go back for "seconds" at the farmer's market.** Seconds are produce that either need to be used quickly to prevent spoiling or that have an imperfect appearance, but still taste good. You can often purchase these for a fraction of the price of the more perfect produce. Finding ways to turn these items into soups or sauces will allow you to freeze for later use.
- **Go to the farmer's market near closing time.** You can bargain with vendors for steeply reduced rates on produce because they don't want to have to take leftover produce back with them when the market closes.
- **Stretch your SNAP (aka. "food stamp") benefits at the farmer's market.** You can double your dollars at the main market stand at many farmer's markets, allowing you to purchase twice as much produce.
- **Avoid canned fruits and vegetables.** If you have a freezer, it is generally more economical to purchase frozen over canned fruits and veggies. Frozen also tastes better than canned and is less likely to have added sugars, salt, or chemicals leached from the plastic lining that occur in commercially canned food. If you do buy canned, avoid those with syrups and high salt contents.
- **Avoid empty calories** like white bread, cakes, cookies, and other items that are highly processed and filled with refined flours and added sugars because these may, contribute to food cravings and have limited nutritional value beyond extra calories.
- **Use water instead of stock** in recipes or make your own stock from vegetable scraps.
- **Learn when buying organic matters. Emphasize that fresh produce does not have to be organic to be a healthy choice.** Any produce that can be added to the diet is better than none at all. If individuals can afford to avoid exposure to non-organic pesticides, direct them to the Environmental Working Group's *Dirty Dozen* and *Clean 15* lists which highlight produce items most and least likely to have high levels of pesticides and contaminants, respectively. If able to spend money on only limited organic produce, opt for those on the *Dirty Dozen* list.[84]
- **Make use of restaurant supply stores and second-hand stores for essential equipment.** More information on finding affordable cutlery, bakeware, and gadgets can be found in the Essential Kitchen Equipment & Tools handout. Along with finding less-expensive sources, distinguishing necessary equipment from superfluous kitchen gadgets is key.

Although these strategies are intended to make it easier for individuals to afford healthy changes to their diets, this is not to say that eating a healthy diet on a low-income budget is easy even when one implements these money-saving strategies. Lack of a living wage, the persistence of food deserts in low-income regions, disparities in leisure time, and the initial investment required to purchase tools and regular access to a kitchen are all barriers to healthy eating and should be taken into consideration when counseling individuals about strategies to adopt a healthier diet.

Food Insecurity

Make sure to screen all patients for food insecurity—a highly prevalent condition affecting 1 in 8 people in the U.S. and 1 in 9 (820 million) around the globe.[85,86] Food insecurity is defined by the U.S. Department of Agriculture as lack of consistent access to enough food to live an active, healthy life.[87] This is distinct from hunger—a related concept referring to an uncomfortable, physical sensation. Food insecurity refers to the lack of available financial and other resources needed for food at the household level.[87]

The following is a validated, 2-question screener to assess for food insecurity[88]:

Script: "I'm going to read you two statements that people have made about their food situation. For each statement, please tell me whether the statement was often true, sometimes true or never true for your household in the last 12 months."

1. "We worried whether our food would run out before we got money to buy more." Was that often true, sometimes true, or never true for your household in the last 12 months?

2. "The food that we bought just didn't last, and we didn't have money to get more." Was that often, sometimes, or never true for your household in the last 12 months?

A response of "often true" or "sometimes true" to either question = positive screen for food insecurity.

Anyone with a positive screen for food insecurity should be connected with local resources to assist with acquisition of free, healthy foods. Familiarize yourself with food resources in your area, particularly if you treat a high proportion of patients with food insecurity. In the U.S., you can find a local food bank by searching on the Feeding America website: https://www.feedingamerica.org/. In addition to direct provision of food, food banks can also generally assist clients in signing up for federal and state food assistance programs.

Cultural Considerations

All of us are influenced by our cultures of origin and the people who surround us. These cultural influences vary from person to person. Taking time to understand the cultural and emotional importance individuals place on food is important when counseling them on healthy dietary behavior changes. Lifestyle Medicine rightly emphasizes healthy relationships, stress management, physical activity, sufficient sleep, and not abusing substances in addition to a predominantly whole food, plant-based diet. Make sure that diet recommendations don't take away from health in these other areas. For example, you might recommend incorporating produce, other healthful ingredients, and cooking techniques commonly used in a given patient's food tradition as the basis for dietary recommendations rather than recommending healthy foods from your own cultural food tradition. Additionally, encourage patients to engage their household in making healthy dietary changes so as not to alienate them around mealtimes. Recommend changes that don't take a lot of time and don't have a steep learning curve to limit added stress.

Take time to better understand the food cultures in your community of practice so that you can tailor your dietary recommendations accordingly. Most cuisines can be tailored to focus on healthier aspects without excluding traditional foods entirely, and many traditional cuisines are healthier than modern, ultra-processed and fast food options. Many food traditions around the world draw more heavily on produce, legumes, and spices than the SAD. Emphasize increasing or reintroducing these traditional foods for those that have begun to adopt SAD or similar diets. For food traditions heavy in meat and highly processed carbohydrates, approaches such as the *Protein Flip* and *Dessert Flip* (described previously) may be good places to start. Knowledge about easy substitutions can also be useful (e.g., healthier cooking techniques, replacing refined grain products with whole grain options, making sauces creamy without butter and heavy cream, etc.).

Throughout this curriculum, different flavors from around the world are highlighted to give students experience with ingredients and techniques they may not have used before. The techniques chosen are common to many food traditions around the world and are therefore highly translatable for providers and patients of varying backgrounds. The final project for this curriculum is a potluck wherein each student chooses a dish that means something to them, and highlights lessons learned in the course. They prepare this dish and share it with the class, describing the dish, what it means to them, why it highlights lessons learned in the course, and how they will use what they learned in the course to help their current and future patients. This capstone experience gives further insight to students about varying food cultures and provides more proof that any type of cuisine can be prepared in a healthy way.

Course Logistics to Consider:

Course Size

Course size will need to be based on space and resources. A common course size is 12 students and two instructors. However, the course size can be larger or smaller. If more students will be attending, overhead cameras with video monitors are ideal; this allows an instructor to demonstrate a technique for all students to see simultaneously. Alternatively, an overhead mirror can be used. The number of students in the course will dictate the optimal number of instructors, volunteer faculty, and assistants for each session.

Choosing a Kitchen Space

The Teaching Kitchen Elective Course for Medical Students at Stanford University School of Medicine used a teaching kitchen (TK) that required minimal setup in a mixed-use institutional/commercial kitchen space. Creating a standalone teaching kitchen (one used only for TK sessions) would be ideal but given limited return on investment to the institution in the short-term, this is likely to be the exception rather than the rule. The general logistics of this mixed-use space are described below, followed by instructions for how to set up a pop-up kitchen space if you do not have a proper kitchen.

Mixed-use space example from Stanford University:

Until around 5pm each day, the TK space is used by the University's dining services to prepare meals for on-campus students. One section of the kitchen was designed to easily be converted to a TK during off-peak hours. To do this, induction burners, pots, pans, and other equipment used for cooking by students were stored on the built-in shelves underneath standard, counter-height, stainless steel kitchen preparation tables. Smaller items, such as mixing bowls and measuring spoons, were kept in a locked cupboard to be used only for the TK sessions. A dedicated refrigerator was also purchased for the TK sessions. Intermittently, ovens and additional items were used in other parts of the kitchen space, adjacent to the area where the TK sessions were held. This shared space arrangement is now being replicated in other places on campus as it limits the financial burden to the institution for operating a TK.

Pop-up TK considerations:

At least at the outset, many TK courses use pop-up kitchens. A pop-up TK is one in which portable equipment is brought into a space normally used for other purposes and set up temporarily in order to hold a TK session. After each class session, the equipment generally needs to be cleaned, packed up, and stored until the next TK session. Pop-up kitchens require more time on the part of instructors to arrange and set up than standalone or mixed-use TKs but are often much less expensive. If using a non-kitchen space, make sure to consider appropriate ventilation, fire codes, access to a sink and cleaning materials, trash/recycling/compost services, and adequate power sources. If any cooking with heat is to be done, some ventilation is required. Each institution and locality have regulations relating to risk of fire. Make sure to be aware of these, properly document adherence, and have the recommended fire extinguishers available. If using induction burners, hotplates, electric griddles/grills, note that heavy-duty extension cords are needed as these draw a lot of power. Make sure to check with your facilities to find out how many burners can be plugged into an outlet or used in a given room. Make sure enough outlets are available if using other plugin equipment such as blenders and food processors. If possible, find a room without carpet as food will get dropped on the floor; make sure a broom and mop are available.

Safety in the Kitchen

- A ServSafe Food Handler Certificate (https://www.servsafe.com/) is a must for at least one instructor present—this instructor can "train-the-trainer" for other instructors—to prevent food-borne illness.
- A commercial dishwasher or 3-compartment sink is required for dishwashing. The compartments include soapy water, rinse water, and sanitizing water, with an adjacent space to dry dishes. If you don't have the appropriate sink, 3 tubs of water can often be substituted for the sink or ask your kitchen facilities if you can wash dishes in their sinks or commercial dishwasher.
- Hair must be fully pulled back or covered with a cap, hairnet, or chef's hat. We recommend providing these since students and volunteer faculty often forget to bring their own.

- Closed-toed shoes to prevent burns/cuts on feet.
- Non-skid shoes and no heels on tile or other floor surfaces that are slippery when wet.
- No dangling jewelry or sleeves which could fall into food or catch fire, respectively.
- All drinks must be in covered containers and kept away from food while cooking.
- Fire extinguisher must be available if cooking with heat and fire codes for the institution and locality must be adhered to.
- Injuries: these occur very rarely if proper knife skills and kitchen safety are enforced. The most likely injuries are cuts and minor burns.
    - Make and keep a basic first aid kit handy and stocked with gloves, cleansing wipes, finger cots, various sized Band-Aids, and burn cream.
    - Know what to do and where to send students or faculty should they get injured. If cut, make sure to let the injured party know to check that they're up to date on their tetanus vaccination. Consider creating and having students and faculty sign waivers acknowledging risk of cuts, burns, and more remote potential kitchen harms pertaining to the space, equipment, and chemicals in use.

Shopping, Setup, and Cleanup

While the instructors listed above may be able to shop and set up for each class session—and accomplish cleanup with help from the students and other faculty volunteers—it is highly recommended to get additional help with these tasks. Shopping, setup, and cleanup add substantially to the time commitment necessary to run a CM course and do not require medical/health professional training to accomplish. If using a commercial kitchen in your institution, work with the chef/kitchen management to assist with these items if you have the financial resources to do so. If using a pop-up space, consider hiring 1-2 assistants (or bringing on teaching assistants) willing to take on all or some of these tasks. You can also consider a dependable grocery delivery service to ease the shopping burden.

Budget

Inputs

Student course fees
Wellness fees (available at some institutions for participating in healthy living programming)
Donations
Grants
Health insurance reimbursements

Expenses

Rental of a kitchen space

- Some include the following, while others charge extra for each item:
    - Equipment rental
    - On-site chef/instructor (many places require at least one of their own staff at events)
    - Prep and cleaning staff
    - Assistants for the class session
    - Food costs
    - Storage space (both cold and dry storage)
    - Trash, recycling, compost collection and disposal
- Alternatively, if a kitchen space is unavailable or unaffordable, look into conference room or community space rental (can be free, depending on the institution)

Lead instructor(s) %FTE and related costs for time/fringe benefits
Equipment purchases (for pop-up kitchen, or items not provided by rental space)

Insurance (required some places; you may be covered under existing policies elsewhere)
Disposable and paper goods, cleaning supplies
Media/promotion, optional
Curriculum costs (if purchasing outside resources)
Printing costs for course guides, recipes, and handouts (if printing)

Waivers

Many institutions require students and faculty to sign waivers regarding risk of injuries in the kitchen. Make sure you're informed about your institution's requirements. If you want to photograph or record video of students and faculty during the class sessions, you should provide them with a waiver to sign allowing you to use these materials for whatever purpose you intend to use them for (e.g., advertising, news media, social media, etc.).

Pre-course Emails to Assist Organizing Students and Faculty Volunteers

Email students prior to the first session

Emailing students a couple days prior to each class session with a reminder of pertinent required and optional materials increases the likelihood that they review necessary pre-session materials. Doing so is highly encouraged as it will be difficult to cover all of the material during class if students are unprepared.

Additionally, the following should be sent to the students prior to the first session to make sure they can cook safely in the kitchen (or pop-up kitchen):

- Send Session 1 required and optional materials
- Remind students to:
    - Wear closed-toed shoes that have non-slip bottoms if possible (no heels!)
    - Do not wear clothes that will get in the way of chopping or that will hang over a stove into a flame.
    - Bring a hair tie or something else to put your hair up if you have long hair.
    - Bring a ball cap (optional); otherwise, a disposable chef's hat or hairnet will be provided to cover hair while cooking. Covering hair is required in a commercial kitchen (rules may differ in other kitchen set-ups).
    - If you have any cuts or sores on your hands, wear gloves (provided) while cooking.
    - All drinks must be in covered containers and kept away from food while cooking—required in a commercial kitchen (rules may differ in other kitchen set-ups).

- Remember: class sessions run from [provide beginning-end time of session]. This includes 90 min of kitchen/cooking time plus 30 minutes for eating and class discussion. (If you plan for students to substantially help with clean-up, build in a bit more time.)

Volunteer faculty

It is our experience that there are a variety of nutrition champions and/or interested foodies among the faculty at most medical schools or other health professional training programs. If possible, recruit faculty from a variety of practice fields to volunteer for a session with the students. While it does take additional time to organize faculty volunteers, they enrich the course by adding perspectives on how nutrition, CM, or motivational interviewing/coaching content is applicable to the patients they see in a variety of fields. This emphasizes to students that these topics are important regardless of which fields they eventually choose to enter. Even faculty who don't know a lot about nutrition or cooking but see the importance among their patient populations, can volunteer in this role, and may even learn alongside the students. 1-2 volunteer faculty, in addition to the culinary medicine course instructors, is a good number to aim for.

The following is an example email that could be edited and sent to faculty who have signed up to volunteer for a course session.

Dear _____,

Thank you for volunteering for the (insert session number and description) session of (title of the course). The session runs from (beginning to end time), but please plan to arrive 15 minutes early to allow for parking/walking.

If you have questions, please email, call, or text (contact person, phone number).

Class Preparation: Please see the required and optional materials for students (describe where to find these or attach to the email). If you have time before class, please read through and/or view the required materials so that you can effectively help the students during class. Additionally, please find below some "Key Points for Instructors/Faculty Volunteers to Discuss with Students," which we hope that you can work into your conversations with students.

Key Points for Instructors/Faculty Volunteers to Discuss with Students:
(Insert discussion points/take home messages from the appropriate session of the class outline that follows.)

Kitchen Rules:

- Wear closed-toed shoes that have non-slip bottoms if possible. Please avoid wearing high heels.
- Do not wear clothes that will get in the way of chopping or that will hang over a stove into a flame.
- If you have long hair, bring something to put your hair up with.
- You will be provided with a disposable chef's hat or hairnet but are welcome to bring a ball cap or other head covering to wear if you prefer.
- If you have any cuts or sores on your hands, wear gloves (provided) while cooking.
- All drinks must be in covered containers and kept away from food while cooking.

Location: The session is held in **(location, address) (map below). You can park (list parking options).**

We look forward to cooking with you!
(Instructor/Course Director's Name)

[Include image of (or link to) map to TK location.]

Logistics Leading Up to Each Class Session:

- Reserve kitchen space for all class dates/times (adding time for setup and cleanup) for all class sessions prior to posting CM course in course catalog for signup.
- Arrange prep and cleanup staff assistance, if applicable.
- Remind volunteer faculty of the upcoming session (a week before).
- Remind students (via email) of pre-work to complete before class session (1-2 days before).
- Print recipes and staple into packets.
- If waivers for either safety or photography/video need to be signed, print and bring copies (first class session only).
- Grocery shopping for required ingredients.
- Prepare TK or set up pop-up TK for class session.
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients among cooking stations.
- Prepare food items that will not be prepared for students (these are generally items required to make sure a full meal is available for the dinner discussion).
- Prepare a space for the dinner discussion—have a plan for flatware, dishes, beverages, tables, and chairs.

Example Syllabus

Culinary Medicine Course Title

Quarter/Semester Year
Weekday Start-End times | Brief Location Description

Course Director:

Name and email address (or other contact/office information)

Course Instructors:

Names and email addresses (or other contact/office information)

Office Hours:

Time, day, location

Course Time/Location:

The (your institution's name) Teaching Kitchen is located (floor, address). We will start each class session promptly at (start time) with a brief introduction and then you'll cook until (1.5 hours after start time). When you finish cooking, we'll eat and discuss the session together (last 30 minutes of class time).

Class Statement:

This course is designed to expose medical (or replace with appropriate allied health profession) students to the fundamentals of cooking in order to both improve personal health and more effectively counsel patients on diet and nutrition. ***The emphasis of this course is on using fundamental culinary skills for the basic preparation of healthy and delicious whole foods.*** In our society, healthy food is unfortunately thought to be synonymous with bad taste. Through chef demonstrations and hands-on practice of fundamental culinary skills, students will learn the basics of preparing delicious, healthy food that rivals (and surpasses) the craveability of the ubiquitous, unhealthy fare that they're exposed to on a daily basis. This course is led by (training background of instructors) who have a passion for cooking and health. All levels of cooking experience are welcome and encouraged (including NO experience!). Everyone will eat what they've prepared at the end of each class—this will be enough food to serve as your (midday or evening) meal.

Prerequisites:

Students must be medical (or replace with appropriate allied health profession) students at (your institution).

Assignments & Grading:

Attendance 40%—**ABSENCES MUST BE MADE UP—DISCUSS WITH (COURSE DIRECTOR)**
Participation 30%
Final Project 30%

The course is worth 2 units (or insert comparable workload) and will be graded as "credit", "no credit" or "incomplete" (or replace with comparable grading structure). During each class session, you will work with other students and faculty to use

basic cooking techniques to create delicious and healthy dishes and will describe different aspects of what you prepared to the rest of the class while sharing a meal together.

Absences:

All absences must be made up via an activity determined by (course director). *(Example: students must make 1 recipe from the session and take a picture of themselves with the dish. Then, they should send the picture in an email along with a written response to the dinner discussion role play prompt.)*
Any absences not made up will result in an incomplete grade until the missed session is made up. It is important that all students participate in all class sessions if at all possible because there is no real substitute for missed class. Please discuss any absences with (course director) beforehand if at all possible so that food is not wasted.
(If this is an elective course, consider adding the following: "Additionally, remember that there is a waitlist of students who wanted to take the class, so please make sure not to waste the opportunity out of fairness to these students, the instructors and, of course, yourself.")

Final Project:

For the final project, you will prepare a dish that means something to you (e.g. favorite food, something you ate with your family growing up, etc.) to contribute to a class potluck. You should choose an item that is both tasty and predominantly WFPB. Use what you've learned in the class to make healthy changes to the recipe or choose a recipe that is already healthy. A key goal is to address the pervasive and problematic stigma that healthy food is somehow less delicious. Be prepared to describe to the class (and possibly surprise guests) what you made and why. You will have 45 minutes of class time for cooking. If you cannot prepare your item in 45 minutes, please discuss with one of the instructors and they can help you figure out a way to make part or all of your recipe ahead of time and get it to class in a timely, safe, and sanitary manner.

Around weeks 5-6 of the course, the instructors will contact you to indicate your preference(s) for the type(s) of dish you'd like to contribute to the potluck so that we can coordinate and make sure we have a balanced meal—we don't want to end up with 12 desserts and no main dish! You will then be given a recipe template to write out your recipe which **must be turned in via email (email address of course director) by Time, Weekday, Date**. *(The following is recommended but optional as it is a substantial amount of additional work: "The recipes will all be turned into a PDF cookbook, along with key course documents and handouts, and distributed to students as a gift and reference to take with them after the course ends.")*

Flipped Classroom model:

The course is run as a flipped classroom model, meaning you need to watch videos and read materials *BEFORE* class and then the class itself is entirely hands-on + interactive participation. Most sessions include 10-20 minutes of video content, PLUS recipes and other handouts that we ask you to watch/read/review prior each session. The optional videos and materials are recommended (though not required) and may make your time in the kitchen easier, particularly for those with little or no cooking or nutrition experience.

Required textbook and materials:

There is no required textbook for the course, but you will be expected to view or read the required videos/materials before class. These can be found at the links included in the syllabus. Many of the materials will require an internet connection for streaming video content. *(You could consider including portions of Chapters 2, 3, and 5 [2019 edition] from The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits by Dr. Beth Frates and colleagues.)*

Class outline:

Session 1— Date

Introduction to Kitchen Basics

- Introduction to the kitchen and how to "clean as you go"
- Knife skills:
    - Basics of choosing and caring for a knife
    - Basic knife skills for fruits, vegetables, and herbs
- Selection and storage of fruits, vegetables and herbs
- Discussion of grain and legume combinations as providing all essential amino acids
- The connection between cooking and health
- Preparation of healthy, Latin-inspired sauces and dips:
    - Pico de Gallo, Fruit Salsa, and Guacamole
- Role play motivational interviewing with a patient to incorporate more vegetables, whole grains, and plant-based proteins into a traditional Latin American diet
- Culinary Medicine/Nutrition clinical correlations
- Meal: Tacos featuring Latin-style Beans, Brown Rice, and Corn Tortillas with Pico de Gallo, Fruit Salsa, Guacamole, and Fresh Vegetable Toppings

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 2— Date

Sauté, Stir-Fry, Simmer, & Braise

- Basic cooking techniques: sauté, stir-fry, water sauté, simmer, and braise
- Build on knife skills to prepare vegetables for a stir-fry and curry
- Explore world flavors—spices and herbs from around the world
    - Stir-fry vegetables and flavor with a basic, teriyaki sauce
    - Sauté vegetables, dry toast spices, and then simmer/braise in coconut milk and tomatoes to make a curry
- Review the basics of cooking whole grains (covered further in Session 5)
- Highlight the *Protein Flip*
- Compare WFPB, vegetarian, vegan, and gluten-free diets; identify which of the dishes in today's session fit into each category
- Role play motivational interviewing with a patient to use the *Protein Flip* to cut down/out meat intake and increase intake of vegetables and whole grains.
- Culinary Medicine/Nutrition clinical correlations
- Meal: Asian Veggie Stir-fry with Teriyaki Sauce (with or without tofu) and Indian Vegetable Curry, Brown Rice, and Quinoa.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 3— Date

Roasting

- Knife skills for winter squash and root vegetables
- Roasting vegetables: root vegetables, squash, and cruciferous vegetables
- Plant-protein techniques:
    - Press, season and roast tofu
    - Simmer, season, and bake tempeh
- General food safety
- Discuss the healthfulness and sustainability of different protein options
- WFPB sources of Omega-3 fatty acids in the diet
- Role play motivational interviewing with a patient to evaluate protein intake level and sources and modify for an overall healthier diet
- Culinary Medicine/Nutrition clinical correlations
- Meal: Roasted Squash and Root Vegetables, Roasted Cauliflower with Cumin, Roasted Tofu with Peanut Sauce, and Smoky Baked Tempeh.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 4— Date

Soups and Salads

- Prepare and compare no-oil and low-oil dressings and vinaigrettes
- Review healthier alternatives to commercially available creamy dressings
- Handling, preparation, and storage of salad greens
- Choosing the most healthful stocks
- How to make a simple vegetable stock (and reduce food waste at the same time!)
- Prepare a vegetable-bean stew or a pureed soup
- Discuss the health benefits of high-fiber diets; prepare and taste high-fiber foods and dishes
- Role play motivational interviewing with a pediatric patient and their parent to move a family toward eating a healthier diet that helps control weight
- Culinary Medicine/Nutrition clinical correlations
- Meal: Butternut Squash & Apple Soup with Sage, Veggie Chili with Beans, Simple Kale Salad, Salad Bar with a Variety of No-oil and Low-oil Dressings and Vinaigrettes.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 5— Date

Beans & Grains: Building Healthy Bowls

- Cooking beans and whole grains, using them in other preparations, storing for later use
- Leveraging leftovers, meal prepping
- Whole grain and legume combinations in world cuisine
- Whole grains and beans as healthy and sustainable protein sources

- Practice making veggie, bean, and whole grain bowls
- Discuss how altering seasonings, sauces/dressings, and ingredients can yield many different flavorful, affordable, and healthy meals
- Create your own veggie, bean, and whole grain bowl, then role play explaining to a patient how to do the same based on their taste preferences and available resources
- Role play motivational interviewing with a patient to make healthy (and tasty!) changes to their diets to prevent, treat, or reverse disease
- Culinary Medicine/Nutrition clinical correlations
- Meal: Assortment of healthy bowls highlighting a variety of types of beans, quinoa, brown rice, homemade hummus, veggie patties, raw and roasted vegetables, simple kale salad, assorted toppings, and sauces/dressings.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 6— Date

Remember: the final project recipe must be turned in via (method) no later than (Time, Day, Date).

Healthy Breakfasts

- Healthy, whole grain breakfast options
- Recognize added sugars in common breakfast foods and devise alternative options
- How to incorporate vegetables at breakfast time
- Selecting lower glycemic index breakfast options
- Try out a variety of healthy toppings on yogurt parfaits and steel-cut oats
- Tofu scramble two ways
- Egg-free breakfast options: using flaxseeds, chia seeds, fruit, and tofu in lieu of eggs
- Compare and contrast nutritional quality of plant-based dairy alternatives and dairy products
- Practice reading nutrition labels in order to choose the best breakfast options
- Role play motivational interviewing with a patient to make healthy (and tasty!) changes to their diets to prevent, treat, or reverse disease.
- Culinary Medicine/Nutrition clinical correlations
- Meal: Tofu Scramble with Vegetables & Spices; Tofu Scramble—Scrambled Egg Replacement; Steel Cut Oats and Non-dairy Yogurt Parfaits with Toppings from a Topping Bar; Overnight Oats; Whole Wheat, Chickpea Pancakes; Whole Grain Omega-3 Waffles (or Pancakes)

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 7— Date

Remember: the final project recipe must be turned in via (method) no later than (Time, Day, Date).

Pastas and Sauces

- Discuss various pastas: semolina, whole grain, gluten-free, bean- or legume-based, and fresh pastas
- Substitute spiralized veggies for pasta in a variety of pasta dishes to increase nutrient and decrease calorie content
- Practice pasta and pasta sauce cooking techniques
    - Tomato sauce, broth-based (or oil-based) sauces, pestos, and “cream” sauce variations.

- Discuss the health benefits of making homemade pasta sauces
- Identify even more ways to use the *Protein Flip*
- Role play motivational interviewing with a patient who has diabetes on how they can include pasta in their diet in healthy (and tasty) ways
- Culinary Medicine/Nutrition clinical correlations
- Meal: Pasta Primavera with Fresh and Dried Pastas, Simple Tomato Sauce with Gluten-free Pastas and Zoodles (spiralized zucchini and summer squash), Pesto with Bean (or Lentil) Pasta and Zoodles, Pesto with Zoodles, Cashew Fettuccine Alfredo, Cashew Alfredo with Zoodles, Plant-based Macaroni & Cheese, and Plant-based Parmesan.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 8— Date

The Dessert Flip & Healthy Desserts

- Practice making a variety of healthy desserts based on fresh fruit, dark chocolate, and nuts
- Discuss concept of the *Dessert Flip* in order to enjoy the desserts you love in a healthier way—example: Chocolate Silk Pie with Fresh Berries
- Increase the use of fruit in desserts in order to decrease added sugar, saturated fat, processed grains, and calories, as well as increase fiber
- How to work with chocolate—example: Chocolate-dipped Strawberries and Dried Fruit
- Roasting nuts
- Natural sweetener options & how to sweeten with dates
- Replacing eggs in baking
- Making quick breads
- Making healthy substitutions in baking that still taste good!
- Knife skills: stone fruit, kiwifruit, apples
- Role play motivational interviewing with a patient with difficulty controlling their intake of added sugars and sweets on healthier ways to satisfy their sweet tooth.
- Culinary Medicine/Nutrition clinical correlations
- Meal: Chef's choice main course salad (optional) to be served alongside the desserts: Apple Crumble without an Oven, Chocolate-dipped Strawberries & Dried Fruit, Chia Pudding, Chocolate Silk Pie with Berries, Fresh Fruit Salad with Mint, Tropical Fruit Salad with Lime Yogurt Sauce, Dark Chocolate with Fruit and Nuts, Grilled Fruit, and Banana Bread (or Muffins).

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Session 9— Date

Final Potluck (Final Project)

- See "Final Project" under "Assignments and Grading," above
- You will select a recipe that means something to you (e.g., favorite food, something you ate with your family growing up, etc.). The dish should either be predominantly WFPB or have adjustments made to it so that the final version fits within predominantly WFPB diet.
- Address the pervasive and problematic stigma that healthy food is somehow less delicious than unhealthy food. This class focuses on delicious food that is also healthy.

- Prior to the session, you will be given a recipe template via email to use to write up your recipe which **must be turned in via (method) by Time, Day, Date.**
- During this session, you will prepare the recipe that you wrote, share why you chose the recipe, how it reflects a predominantly WFPB diet, and then share the dish with the class during a celebratory potluck.
- Meal: Whatever you and your classmates prepare and share with the group.

Remember: this is meant to be a FUN way to share what you learned and to better prepare you to talk about food with your patients.

Required Materials (to view/read BEFORE class)
Optional Materials
(hyperlink to required and optional materials folders with applicable resources online or simply list materials here)

Instructor's Outline

Session 1

Introduction to Kitchen Basics

Welcome to the teaching kitchen! Think of this course as a practical nutrition lab designed to help you learn to make delicious, healthy food within the constraints of your available resources (time, budget, etc.). This will help you to both improve your own diet and learn to counsel your current and future patients to do the same. This introductory session begins by focusing on learning basic knife skills using fresh fruits, vegetables, and herbs. Then, you turn the fruits of your knife skills practice into delicious salsas and guacamole to enjoy as part of a Latin-inspired meal while discussing related nutrition and health topics and practicing patient motivational interviewing/coaching techniques.

Goals

1. Execute essential knife skills for selected vegetables, fruits, and herbs.
2. Assess proper selection and storage of herbs, vegetables, and fruits used in the session.
3. Recognize traditional flavors used in Latin-style cooking and how these flavors can be used to enhance combinations of vegetables, fruits, grains, and beans.
4. Evaluate which ingredients used in Latin-style cooking are compatible with a WFPB diet.
5. Compose dishes from recipes and identify the general cooking and preparation principles underlying the recipes.

Objectives

1. Students are introduced to the basic functions of a kitchen and demonstrate how to "clean as you go".
2. Dice, mince, chop, peel, pit, slice, and juice (as appropriate) the following items: tomatoes, garlic, fresh chilies, bell peppers, mango, pineapple, avocado, herbs, scallions, and limes.
3. Prepare 3 healthy sauces and dips (i.e., pico de gallo, fruit salsa, and guacamole).
4. Share a healthy, WFPB (and gluten-free) meal that highlights Latin flavors.
5. Discuss (as a group) why it is important for doctors (or other health professionals) to learn about healthy cooking in order to keep themselves and their patients well.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
  - Read all recipes
  - Basic Knife Skills
  - The Essential Kitchen
  - Food Storage 101
  - ACLM A Whole Food, Plant-based Plate
  - Lifestyle Nutrition
- Videos:
  - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*

- How to choose a knife, use a steel, and sharpen a knife
- How to chop onions (Michelle's example video https://youtu.be/GEG6MqbhDU4)
- How to chop garlic (peel, crush, mince, slice)
- How to chop bell peppers (julienne, dice, paysanne)
- How to chop fresh hot chilies (seed, remove pith, mince)
- How to cut an avocado (pit, dice, scoop out, use pit to prevent browning)
- How to cut a mango (peel, slice, and dice or alternative method)
- How to cut a pineapple
- How to chop herbs (include wash, spin dry, rough chop, mince)
- Video introduction to Latin flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in Latin cuisine)

Optional

- Handouts:
  - Intro to World Flavors
  - How to Cook Beans
  - How to Wash and Store Fresh Greens and Herbs (required for Session 4)
  - ACLM A Whole Food, Plant-based Plate for Children, Tweens and Teens
- Videos:
  - How to Cook Beans (will be required for Session 5)
  - For a deeper dive into Latin cuisine, share example videos of how to work with dry chilies to make sauces/salsas
  - Videos for each recipe

Meal Description

Latin-style Beans, Brown Rice, and Corn Tortillas with Pico de Gallo, Fruit Salsa, Guacamole, and Fresh Vegetable Toppings (e.g., julienne carrots, shaved cabbage, sliced green onions, lime wedges)

Recipes

- Pico de gallo
- Fruit salsa
- Guacamole
- Latin-style Black or Pinto Beans

Class Session Outline

Instructor prepares ahead:

- First session only, if waivers for safety and/or photography/video need to be signed, print and bring copies to the first class session (5 minutes).
- Shop for session (estimated time, 1 hour).
- Print recipes and staple into packets (estimated time, 15-30 minutes).
- Prepare a space for dinner discussion (after cooking)—have a plan for flatware, dishes, beverages, table, and chairs (estimated time, 15 minutes).
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
  - To limit dishes afterward, make available only tools and equipment needed for the session.
  - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.

- Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.

- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion (60 minutes of hands-on time, divided).
  - Make brown rice (1 standard serving per person)—can be put on to cook right before session or made ahead, takes 45-60 minutes of mostly passive time.
  - Make black (or pinto) beans (multiple recipe provided so you have 1 serving per person) (prep times vary, can be nearly instant if using canned beans, otherwise will need about 2 hours, but can simmer during session).
  - Heat/brown/warm corn tortillas—wrap in foil in stacks of ~6 tortillas and warm in a 350°F (175°C) oven. Place in a covered hotel pan in a low oven or slow cooker set on low to keep warm after heating, until service. Alternately, have students heat their own tortillas in a skillet if there is no way to keep them warm during the session (2-3 per person).

Session:

- Icebreaker/introductions:
  - Instructors, faculty volunteers, and students introduce themselves
    - Share your favorite food and why it is your favorite (or substitute another brief icebreaker activity)
- Introduction to the kitchen–Instructor introduces:
  - Location of key items/tools
  - Kitchen rules (those that were emailed ahead of class, but reiterate):
    - Wash hands before getting started
    - Must put up and cover hair (required in a commercial/industrial kitchen)
    - Wear closed-toed shoes
    - Wear gloves if you have cuts or sores on hands
    - Clean as you go (or there will not be time for the dinner discussion/meal)
    - Location of first aid kit/materials—what to do if you cut yourself:
      - For minor cuts: apply pressure, rinse in cool water to remove foreign bodies, dry, use alcohol wipe, bandage, wear glove for remainder of cooking portion of session.
      - For major cuts: apply pressure, rinse in cool water to remove foreign bodies; re-apply pressure with a clean towel; collect anything that may need to be sewn back on and place on ice; proceed to ER via the safest method possible for evaluation. (Note: this should not happen if practicing proper knife skills and safety)
      - Make sure cutting board/knife being used at the time of the injury either aren't used further until cleaned/sanitized and food on cutting board is thrown away
  - Timing for end-of-class clean-up (45 min before end of class)
  - Time that dinner discussion will start (30 min before end of class)
  - Describe cooking plan for the day:
    - Students will practice chopping ingredients to be used in recipes; cut items using the cuts described in recipes
      - Instructors to set out bowls for all like-chopped ingredients (e.g., all small diced onions go into one bowl, all minced hot chilies go into another bowl, etc.)
      - After ingredients are chopped, students should spend the last 20 min of cooking time working in groups of 2 to mix together the recipes for salsas and guacamole and adjust the seasoning.
        - 3 groups of 2 students make the fruit salsa
        - 3 groups of 2 students make the pico de gallo
        - Students can decide among themselves how to accomplish 4x recipe of guacamole (or can further split into groups of 3 to do this)
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up and covered, dangling jewelry off, aprons on, etc.)

- Demonstration/Didactics:
  - Knife skills (in kitchen)
    - Talk (briefly) about knives:*
      - How to safely prepare a cutting board to use with a non-slip item (e.g., damp paper towel or cupboard liner, should be placed underneath cutting board)
      - Describe chef and paring knives
        - Chef knives are generally 6-10" in length; the most common length is 8"
        - Paring knives are generally 3.5-4.5" in length
        - Look for full-tang knives (metal from the blade runs all the way through the handle)—this makes for a nicely weighted, balanced knife that won't fall apart (posing a safety risk) with repeated washings
        - Do not buy serrated paring or chef's knives
        - Some examples of high-quality paring and chef's knives that are likely to stand the tests of time include: Wusthof Classic versions and Global knives. Think of these as something you might pass on to other family members.
          - However, you can find perfectly functional, much less expensive versions, such as those used in commercial kitchens.
          - Examples include: Winco, Victorinox, and Mercer knives. Again, look for full-tang options.
      - Show how to use a steel to keep the edge straight (or refer students to a video)
        - Steels should be used daily for any days with substantial cooking or chopping, or a couple times per week for those who do lighter cooking.
      - Knife sharpening is recommended about once per year for most home cooks, but if you cook a lot or take particularly bad care of your knives, you may need to sharpen more often.
    - Knife safety:
      - When walking through the kitchen with a knife, hold knife flat against leg at your side and say, "sharp behind" to alert others not to make any sudden movements.
      - Instructor should demonstrate safe chopping techniques, by curling fingers of the non-dominant hand under, using them to secure item being chopped and using the flat part of finger between the 2nd and 3rd knuckles as a guide for the knife while chopping.
      - Don't lift knife fully off cutting board while chopping small items.
      - Use the flat part of finger between the 2nd and 3rd knuckles as a guide for the knife while chopping larger items, especially when the knife must be lifted off the cutting board.
      - Use a bench scraper to scrape items into a pile on the cutting board or to transfer them to another dish.
      - Cut away—never toward—yourself.
    - Cooking with families tip: kids can use knives! Younger children can use plastic knives or scissors for cutting. Older children can use regular knives with supervision until they are comfortable using them safely on their own.
  - (Optional) If instructors are particularly skilled or if instructional videos aren't readily available, demonstrate knife skills required of the students for the day (just pick a few skills or time will run out):
    - Small dice onion, tomatoes, bell peppers
    - Peel and mince garlic; make a paste with garlic and salt
    - Seed, devein, and mince fresh hot chilies
    - Chop herbs/cilantro
    - Pit, peel, and medium dice avocados
    - Peel, cut out pit, and small dice mango
    - Peel, core, small dice pineapple
    - Finely slice scallions

        - Roll, cut crosswise, and juice lemons/limes
        - Other knife skills to practice (if time permits): julienne carrots and shave cabbage (both for meal toppings).
    - Alternatively, skip the preceding demonstrations and just let students get started right after learning about knives and safe chopping technique. Instructors should walk around and help students who get stuck, are using unsafe technique, etc.
        - You can request attention from the whole class and do an impromptu demo for any technique(s) that students seem to particularly struggle with.
- Students' turn to practice chopping ingredients listed for **pico de gallo, fruit salsa & guacamole:** place ingredients into common bowls (e.g., students small dice onions and then put diced onions into the onion bowl—eventually, these onions will be used as an ingredient in all 3 recipes).
    - Small dice tomatoes, onions, red and green bell peppers
    - Peel and mince garlic
    - Make a paste with garlic and salt
    - Seed and mince jalapeños or serranos
    - Chop cilantro
    - Peel, pit, and small dice mango
    - Peel, core, and small or medium dice pineapple
    - Pit, peel, and medium dice avocados
    - Finely slice scallions
    - Juice lemons and limes
    - Other knife skills to practice (time permitting): julienne carrots and shave cabbage (both for meal toppings)
- Describe/demonstrate selection and storage of vegetables and herbs used in the session
    - Do this while walking around and helping the groups as time permits
    - Due to limited time, direct students to the required reading, "Food Storage 101", to learn more about the storage of fruit, vegetables, and herbs. Also consider adding other online resources showing how to select and store these items.
        - Note: storing lettuce will be covered in the *Soups and Salads* class session, but you can review the "How to Wash and Store Fresh Greens and Herbs" handout for more details.
- Students should be alerted 30 min before the end of cooking time that 10 min remains to finish chopping.
- Students should be alerted 20 min before the end of cooking time that they need to stir together salsas and make guacamole as described above, then season to taste. Dinner will begin in 20 minutes.
    - Note: you may need to cut out some steps/topics during the session—or make the session longer—if students will be doing the cleanup. Timing described in the sessions is assuming there is someone else who will do the cleanup while instructors, students, and volunteer faculty spend the last 30 min of the class session eating a meal together and going over Dinner Discussion topics described below.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- Briefly discuss that eating a diet that includes whole grains and legumes provides all essential amino acids in the diet (e.g., WFPB, vegan, and vegetarian diets are not deficient in protein—even for kids).
    - Many cultures around the world get the majority of their protein from these plant sources of protein and have much lower rates of cardiovascular disease, diabetes, cancers, and obesity than occur in the U.S. where most protein intake comes from animal sources.
- In general, plant foods require less land, fewer resources, and are more environmentally sustainable than animal foods. Red meat and dairy products are the least environmentally sustainable foods.
- Remind students to review the videos and handouts if they haven't already.
- Mention that Session 5 is dedicated to beans and whole grains, so more details on cooking both will be addressed at that time.
- While walking around and assisting students, be mention proper selection of fresh fruits, vegetables and herbs used in the session.

- Highlight that many of the tasks covered in today's session can be done by or with children and that children are more likely to try new things that they helped make.
- The dips and sauces/salsas being made today are all healthy options to add flavor (and spice, if desired) to any Latin-inspired meal or snack.

Dinner Discussion

- Faculty share clinical correlations/vignettes pertaining to the meal—this is
- Introduce students to the concept that each session we'll ask students to role play patient-provider interactions where they'll practice counseling a patient on how to make a dish/meal that we prepared in the session including an easy change to make it at least one of the following: more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Role play with a student as the physician and an instructor or faculty member as the patient.
        - Example role play prompt: You're seeing a 50-year-old, Spanish-speaking, Latinx patient in outpatient primary care who has obesity. When you take a diet history, you learn they eat a traditional Mexican diet that includes a number of meat dishes, beans, rice and corn tortillas. Based on what you learned after reading/watching/reviewing/cooking from this session's materials, role play how you would approach the discussion of how to eat healthier and provide tailored tips for how to work more vegetables into the diet. Hint: it's always nice to start by highlighting the positives (i.e., what is already healthy about their diet) and make sure to consider cultural food traditions and food preferences in your discussion and recommendations.
- Why cook? Discuss why one is likely to eat healthier if they cook at home. Discuss benefits to the entire family if everyone pitches in with meal preparation and eats the meal together.

Related Nutrition/Clinical Correlates in the Curriculum:

- Lifestyle Nutrition (Handout)
- ACLM A Whole Food, Plant-based Plate (Handout)
- ACLM A Whole Food, Plant-based Plate for Children, Tweens and Teens (Handout)
- Cultural Considerations (Introduction)
- Tips for Helping Others Move Toward a Healthier Diet (Introduction)

Optional References:

1. Richter C, Skulas-Ray A, Champagne C, Kris-Etherton P. Plant protein and animal proteins: Do they differentially affect cardiovascular disease risk? *Adv Nutr.* 2015;6(6):712-728. 10.3945/an.115.009654.
2. Gonzalez-Garcia S, Esteve-Llorens X, Moreira MT, Feijoo G. Carbon footprint and nutritional quality of different human dietary choices. *Sci Total Environ.* 2018;644:77-94. 10.1016/j.scitotenv.2018.06.339.
3. Wolfson JA, Bleich SN. Is cooking at home associated with better diet quality or weight-loss intention? *Public Health Nutr.* 2015;18(8):1397-1406. 10.1017/S1368980014001943.

Session 2

Sauté, Stir-Fry, Simmer, Braise

The remainder of most of the sessions in this CM course focus on techniques needed to prepare simple, healthy meals. Each session builds on skills learned in prior sessions, incorporates new flavors, and lends opportunities to learn to talk to diverse patients or family members about what they eat. Today, you will learn to chop broccoli, cauliflower, and potatoes; mince ginger; and practice the techniques sauté, stir-fry, simmer, and braise. These techniques have significant overlap, but by using East Asian and Indian flavors, you will end up with two very different dishes to share during the dinner discussion. These cooking skills are some of the most important to learn if you want to gain freedom from recipes. Once you master these techniques, you will be able to put together a quick meal from any vegetables, seasonings, and whole grains you have on hand. This session highlights both methods and ingredients that adhere to a completely WFPB diet and those that can help in the transition from less healthy diets toward more plant-based diets.

Goals

1. Execute knife skills for selected vegetables and ginger.
2. Complete dishes using the following cooking techniques and methods: sauté, stir-fry, simmer, and braise.
3. Recommend basic flavoring ingredients used in East Asian and Indian cuisines.
4. Prepare dishes from a recipe and identify the general cooking principles underlying the recipe.
5. Assess the key categories of ingredients in each dish (e.g., oil/water, vegetables, and some type of seasoning for stir-fry) and think about how you could make a new version of the dish using other ingredients.
6. Describe how to prepare at least one dish that highlights the concept of the *Protein Flip*.

Objectives

1. Cut broccoli and cauliflower into florets, remove thread from peas and bias cut, paysanne bell pepper, sauté slice onions, and medium dice sweet potato.
2. Prepare a basic teriyaki-based stir-fry sauce.
3. Create a simple Indian curry using techniques including sautéing vegetables, toasting dry spices, and simmering in coconut milk.
4. Share a healthy meal that highlights East Asian and Indian flavors and be able to describe which items are appropriate for those who eat vegan, vegetarian, and gluten-free diets.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
    - Review all recipes
    - Intro to World Flavors
    - Cooking Techniques
    - Measuring Math
    - The Simple, WFPB, World Flavors Pantry

- Videos:
    - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*
        - Video Introduction to East Asian Flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in East Asian cuisine)
        - Video Introduction to Indian Flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in Indian cuisine).
        - How to Stir-fry and Sauté with Water and Oil
        - How to Simmer and Braise
        - How to Roll-cut Carrots
        - How to Chop Broccoli and Cauliflower (florets, and how to julienne, shred, and dice stems)
        - How to Prepare Fresh Beans and Peas for Cooking (remove the "thread", slice fresh pods/beans on a bias, and remove mature peas from pods)
        - How to Chop Potatoes (julienne and dice)
        - How to Peel and Mince or Grate Ginger

Optional

- Handouts/Weblinks:
    - Cooking Chart for 1 Cup of Dry, Whole Grains (required for Session 5)
    - How to Cook Whole Grains (required for Session 5)
- Videos
    - Videos for each recipe
    - How to Cook Whole Grains (Required for Session 5)
    - The Protein Flip (Required for Session 3)

Meal Description

Asian Veggie Stir-fry with Teriyaki Sauce (with or without tofu) and Vegetable Chickpea Curry, Brown Rice and Quinoa.

Recipes

- Asian Stir-fried Vegetables with Teriyaki Sauce
- Vegetable Chickpea Curry
- Roasted Tofu (optional for this session, instructors can make for students to add to stir-fry; required for students in Session 3)

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion (after cooking)—have a plan for flatware, dishes, beverages, table/chairs. (estimated time, 15 minutes)

- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
        - Make a station with ramekins of spices used for dishes today—encourage students to taste spices as they measure them out for their recipes; these are likely to be new flavors for some students and tasting helps them gain confidence incorporating them in future dishes.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion.
    - Make Roasted Tofu (to use in stir-fry), should be in cubes. (45 minutes, mostly passive time), optional
    - Prepare station to demonstrate curry recipe. (30 minutes)
    - Prepare a station to help student stir-fry (students will chop and measure out ingredients for this). (<5 minutes)
    - Prepare quinoa and brown rice ahead and keep warm for dinner. (Quinoa: 15 minutes; Brown rice: 50 minutes, mostly passive time)

Session:

- Introduce faculty volunteers.
- As a preview to the dinner discussion, instructors and/or faculty volunteers can share how the topics of this session relate to patients they've seen or to clinical care.
    - For example, one instructor or volunteer might share about working with an adult patient who has overweight and dyslipidemia. Their diet is high in red meat intake and low in vegetable intake. They find vegetables "boring, flavorless, and mushy". On further questioning, the instructor finds that the patient grew up being served canned vegetables on the side, while meat had the central place on the plate. The instructor can then explain how to use the techniques of stir-fry or sauté with interesting seasonings to easily cook fresh vegetables quickly, leaving them with a bit of crunch and a lot of flavor.
        - They might also mention the concept of the *Protein Flip* (See "Protein Flip" under "Tips for Shifting Away from Diets High in Meat and Added Sugars" in the Introduction for details) for those not willing or interested in giving up animal sources of protein (e.g., meat, poultry, etc.) completely. This idea can be utilized to help those with meat-heavy, vegetable-poor diets shift toward a healthier plate by making vegetables the star and using healthier proteins, or the original protein in a reduced portion as a garnish (i.e., *Protein Flip*). Instructors can also mention how dietary behaviors get passed along to kids, even if not intentionally. For adults with children, mention role-modeling in food choices and attitudes.
    - Instructors can also mention how dietary behaviors get passed along to kids, even if not intentionally. For adults with children, mention role-modeling in food choices and attitudes.
    - Kids can be very sensitive to textures of food, so introducing a variety of vegetables and textures early is really important. It can take >10 trials of a new food or dish before kids (or adults) take to it, so don't give up if a healthful food is rejected on the first few tries.
- Intro: today students should work in teams of 2 to practice knife, simmer/braise, sauté, and stir-fry skills to create a dish with either basic East Asian or Indian flavors. Everyone will get to eat both dishes at dinnertime.
    - The same timing applies as other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.
    - Explain **mise en place**–just think about getting your "mess in place." This term is French and refers to getting all of your ingredients prepared before starting to cook. Get all the equipment you'll need, and get all ingredients out, chopped, and measured—THEN, start cooking. This prevents burned or poorly cooked

food, mistakes, and anxiety in the kitchen. If you find yourself with extra time between cooking steps, those are good times to do preliminary clean up. You should do mise en place EVERY TIME you cook—especially in class—or you will run out of time at the end.

- Remind them to clean as they go—if not, they will run out of time at the end.
- Refer them to the "Cooking Techniques" handout for a description of the techniques used today. Highlight water sauté—this is a technique used by those following an entirely WFPB diet that enables the elimination of oil. Instructions are given in recipes for how to use water and oil sauté (or stir-fry) in order to distinguish the differences.
- Videos showing the techniques should have been viewed prior to the session, if available.
- Discussion of world flavors—have a station set up with the spices and ingredients that will be used for the session, with spices grouped by regions of the world. Refer them to the "Intro to World Flavors" handout to learn more flavors and spices used in different regions of the world.
    - Explain that 3 teams of 2 students will make stir-fry and the other 3 teams of 2 students will make the curry. Teams should be assigned with the beginner cooks making the stir-fry and more experienced cooks making the curry.
        - If high-heat gas burners are available to you, consider using them for the stir-fry as they will produce the most authentic result. However, any type of stovetop, portable, or induction burner will get the job done.
    - Handouts include recipes for:
        - Stir-fry using basic stir-fry sauce (teriyaki) and ingredients (e.g., low-sodium tamari/soy sauce, garlic, ginger, chilies, small amount of sugar, cornstarch)
        - Simple curry using dry-toasted Indian spices, curry powder, and coconut milk. An untraditional addition is to use low-sodium tomato sauce instead of adding fresh tomatoes. This allows the cook to cut down on the amount of coconut milk needed, which in turn reduces saturated fat in the dish, but maintains the desired creamy texture.
- Mention that the plant-based protein options in this session include tofu and chickpeas (aka. garbanzo beans). If you are working with patients that plan to keep animal sources of protein in their diets, the techniques covered in this session are easily adapted to the *Protein Flip* in order to cut down the total portion size. In addition to limiting the portion size, harm reduction counseling can be included here, such as opting for lean poultry (e.g., skinless chicken or turkey breast) or fish in lieu of red or processed meats.
    - Tofu, if available for this session, is pre-cooked by the instructor (students would not have time to prepare) and it can be added near the end of cooking the stir-fry, if desired. The curry already has chickpeas as the protein in the recipe, but the tofu is also delicious added to this dish. Let students know they will learn to make it in Session 3.
- Let students know that quinoa and/or brown rice will be available for dinner to serve with their dishes but will be made ahead by the instructors. Students will learn to prepare whole grains in Session 5.

■ Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)

- Instructor demonstrates: Before student break off on their own to cook, chef will demonstrate to the group:
    - How to make the curry
        - Take note of how to toast spices, sauté onions and other ingredients in oil or water, and simmer in liquid (coconut milk, tomato sauce, and water). If covered to simmer, this could be considered a braise.
        - Explain to students that tofu could be prepared (i.e., drained, pressed, and cubed) as they will learn in Session 3 and could be then added to the curry during the last 5 minutes of cooking. To maximize flavor uptake and chewiness, don't skip the pressing step and make sure to serve with, or cook in, some type of sauce. (Alternatively, you could wait and mention this in Session 3.)
- Once students making the stir-fry have finished their mise en place, an instructor can demonstrate or help students with stir-frying. Consider setting up a station for the instructor and have students come to them.

- From a culinary perspective, stir-frying is much easier if oil is used—even a very small amount—but it can be done with water as well for those who wish to completely avoid it. Most people used to the very oily stir-fries served in many restaurants will also be more satisfied with the dish if the small amount of oil indicated in the recipe is used. Generally, very little, if any, browning will be achieved without oil. Instructions are given in the recipes for both no-oil and low-oil versions of stir-fry.
- Explain to students that tofu could be prepared (i.e., drained, pressed, and cubed) as they will learn in Session 3 and could be then be stir-fried similar to the vegetables in the stir-fry recipe. Stir-frying with water or very little oil will result in tofu that is fairly soft at the end of cooking, whereas more oil results in crisper tofu. To maximize flavor uptake and chewiness when excluding or limiting oil, don't skip the pressing step and make sure to serve with, or cook in, some type of sauce. (Alternatively, you could wait and mention this in Session 3.)

- Students build on knife skills to prepare vegetables for stir-fry or curry as described below. They would ideally view the video demonstrations ahead of class, or instructors can walk around and help students as they chop. There will not be time to demonstrate all of the following techniques prior to students starting to cook or the session will not finish in the allotted time.
    - Broccoli—cut into small (~1-inch to 1-1/2 inch) florets.\
    - Cauliflower—cut into small (~1-inch to 1-1/2 inch) florets
    - Snap peas—remove "thread" by breaking off end of peapod and pulling back along the length of the pea. Cut pods in half on a bias.
    - Red bell pepper—paysanne (flat squares, about 1-inch square)
    - Sliced white/yellow onions—sauté slice (see "Basic Knife Skills" handout from Session 1)
    - Sweet potato—medium dice (curry only; see "Basic Knife Skills" handout from Session 1; cut potato in ½-inch thick slices, then cut these slices into ½-inch wide batons, then cut the batons into ½-inch squares)
    - Mince garlic and ginger; garlic clove and ginger first need to be peeled. Ginger can easily be peeled using the edge of a teaspoon to scrape off the very thin peel. Garlic can be placed under the flat side of a chef's knife and partially smashed using pressure from the palm of the hand pressed or hit on the flat side of the knife. This loosens the peel and makes it easier to remove.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- Remind students to practice mise en place by chopping and measuring all ingredients before starting to cook. This prevents burned or poorly cooked food, mistakes, and anxiety in the kitchen.
- If students ask questions about which flavors go together, direct them to the "Intro to World Flavors" handout.
- Remind students that they were given the "Measuring Math" handout if they have questions about measuring ingredients while cooking.
- While walking around and assisting students, try to mention proper selection of fresh fruits, vegetables and herbs used in the session (especially for those not covered in previous sessions). You can refer them to the "Food Storage 101" handout from Session 1 for tips on proper storage.

Dinner Discussion

- Introduce the concepts of vegan, vegetarian, and gluten-free and have students identify which food items are appropriate for those following these diets. These diets are commonly encountered in clinical settings for medical, religious, and cultural reasons and students should understand how to counsel patients to follow them while also eating in a healthy way. Compare and contrast these diets with a predominantly WFPB diet (See "Tell Me More About a Whole Food, Plant-based Diet" and "What About Gluten?" in the Introduction section for more details) .
    - Vegan diet: includes no animal products (i.e., no meat, poultry, fish, seafood, dairy products, or eggs; some also exclude honey)
    - Vegetarian diet: technically, what is called a "vegetarian diet" is truly a "lacto-ovo vegetarian diet". This means that dairy ("lacto") products and eggs ("ovo") are allowed, but all other animal products are off limits. Honey is allowed.

- Gluten-free diet: a diet free of wheat, rye, barley, triticale, and any other gluten-containing foods, condiments, and cross-contamination. This is only required for those with celiac disease or gluten intolerance. Many condiments and processed foods contain hidden glutens. If made with tamari rather than soy sauce, recipes for today's session are all gluten-free. Just make sure to serve with a gluten-free whole grain, such as quinoa or brown rice.
    - The "Cooking Chart for 1 Cup of Dry, Whole Grains" handout (required in Session 5) indicates which grains are gluten-free.
- All of these diets are safe for children; in fact, beans/legumes are the ideal first food for children since they're rich in iron.
- If time permits, briefly cover what it means to be Kosher and explain to students that among many other rules, pork products and shellfish/crustaceans are not eaten by those following this Jewish religious and cultural tradition. Those following Muslim religious and/or cultural traditions also abstain from pork consumption and any meat eaten from other animals must be slaughtered according to Halal (i.e., "allowed") rules. An entirely WFPB diet includes only foods that could be considered Kosher pareve and Halal. Caveats: there are some food preparation and handling rules required for true pareve designation, even for plant foods. Additionally, in Muslim food tradition, the opposite of Halal is Haram (i.e., "forbidden"). Haram ingredients are blood, alcohol, and meat from pigs or meat that wasn't slaughtered in the appropriate manner.

- Discuss concept of the *Protein Flip* and how the dishes made in the class session could exemplify this concept.
    - See "Key Dietary and Related Information Referenced in this Curriculum" section of the Introduction for a description of the *Protein Flip*.
- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that they prepared in the session, including an easy change to make it one of the following: more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Role play with a student as the physician (or another provider) and instructor or faculty member as the patient. The patient has indicated that they are not interested in cutting meat completely out of their diet. Use the concept of the *Protein Flip* and cooking techniques learned in today's session to counsel a patient with a diet high in red meat and low in vegetables and whole grains to cut down on red meat intake and increase vegetables and whole grains.
        - Student(s) role playing as the physician/provider might recommend the patient first try to decrease the frequency of meat intake. When including meat in the diet, cut the portion to a couple of ounces, sliced thinly and stir-fried, with a much larger portion of broccoli and/or other vegetables tossed in a flavorful sauce (such as the teriyaki sauce).
            - To practice motivational interviewing, you may first want to guide students to elicit from the patient why they don't eat many vegetables or whole grains and which, if any, vegetables they enjoy.
                - This allows you to help them troubleshoot the issues they've had with vegetables. For example, if they say that vegetables are soggy or flavorless, one could discuss how fresh vegetables cooked for only a few minutes over high heat maintain some crispness and can develop flavor through caramelization. Using flavorful sauces—such as the lower-sodium version of the teriyaki sauce is a good example. Alternatively, if flavorlessness is the main concern, one could also describe the process of layering flavors in the curry by first toasting the spices, then sautéing the vegetables, then simmering in coconut milk and tomato sauce to add richness (from the coconut milk) and umami (from the tomato).
                - With kids or families, work with them to ask what their favorite vegetables, dishes, and flavors are. Then, have them help brainstorm ways to increase vegetable intake. For those using the *Protein Flip* (as in this exercise), this could include increasing the ratio of vegetables to animal sources of protein in the dish.

- At subsequent visits, check in with the patient and see if they are willing to continue increasing plant-based and decreasing (or cutting out) portions of animal-based and processed foods. Once people gain mastery of cooking techniques for whole, plant foods and develop their palettes for these items, there may be less resistance to cutting down or eliminating less healthy options.

Related Nutrition/Clinical Correlates in the Curriculum:

- Calorie Density (Handout, Introduction)
- Popular Diet Trends (Introduction)
- What about Gluten? (Introduction, Optional References)
- Cultural Considerations (Introduction)

Optional References:

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Session 3

Roasting

Hearing "protein", one often conjures images of red meat, chicken, and fish. However, protein is a macronutrient—one of the 3 major, calorie-providing components of the foods we eat (the other two are carbohydrates and fat). Most foods contain at least a small amount of all three macronutrients. High-protein foods prevalent in WFPB diets include beans, lentils, tofu, tempeh, seitan, nuts and seeds. However, protein is also found in other WFPB staples, such as whole grains and vegetables. For example, there are 8-9 grams of protein per 100 Calories of broccoli or kale!

Roasting is a great way to bring out the flavors in foods, primarily by helping them to brown, or caramelize. The process of caramelization darkens starches and sugars in foods and adds a nutty, umami (savory) flavor. Caramelization can be done in a pan on the stovetop or via roasting—cooking in an uncovered, low-sided pan in the dry heat of an oven. In this session, you will practice roasting. Over dinner, you will discuss the relative sustainability and health benefits of different high-protein foods.

NOTE: if ovens aren't available in your teaching kitchen space, alternative approaches to this session are given at the end of the Session 3 outline.

Goals

1. Execute knife skills for winter squashes and root vegetables.
2. Create dishes using the cooking techniques and methods roast and bake.
3. Evaluate more versus less sustainable protein options and their relative healthfulness.
4. Classify the general cooking principles underlying the recipes used in this session.
5. Assess the health benefits of plant-based proteins and determine which are consistent with a WFPB diet.

Objectives

1. Cut root vegetables into batonnets and cauliflower into florets.
2. Roast vegetables one way and describe how this method can be applied to other vegetables.
3. Roast/bake tofu or tempeh.
4. Share a healthy meal of roasted and baked foods that highlights plant-based protein options.
5. Identify, compare, and contrast healthy protein options appropriate for those eating the following diets: WFPB, vegan, vegetarian, gluten-free, and pescatarian.
6. Discuss the health benefits of plant-based proteins.
7. Discuss the relative sustainability of different high-protein foods.
8. Identify and describe sources of omega-3 fatty acids for those following a WFPB diet.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
    - Review all recipes
    - Food Facts: Safe Food Handling (General food safety, not specific to WFPB diets)
    - Health Benefits of Plant-based Proteins
- Videos:
    - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to*

watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.

- Health Benefits of Plant-based Proteins (An engaging presentation of the topic)
- Protein Flip (examples of dishes highlighting vegetables and whole grains, garnished with proteins, e.g., vegetable stir-fry with a protein, salads with a few slices of grilled chicken or tuna on top, vegetable curry with cubes of a protein)
- How to Cut Butternut Squash and Other Hard, Winter Squashes (peel, seed, dice, or slice)
- How to Prepare Tempeh and Bake (similar to recipe instructions for this session)
- How to Press Tofu and Prepare for Cooking or Roasting
- How to Roast Vegetables

Optional

- Handouts/Weblinks:
  - Review all recipes
- Videos
  - Video for each recipe
  - How to Cook Beans (Required in Session 5)
  - How to Roast Nuts (Required for Session 8)
  - How to Prepare Asparagus (sauté & roast)

Meal Description

Roasted Squash and Root Vegetables, Roasted Cauliflower with Cumin, Roasted Tofu with Peanut Sauce, and Smoky Baked Tempeh.

Recipes

- Roasted Squash and Root Vegetables
- Roasted Cauliflower with Cumin
- Roasted Tofu with Peanut Sauce
- Smoky Baked Tempeh

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion—have a plan for flatware, dishes, beverages, tables, chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
  - To limit dishes afterward, make available only tools and equipment needed for the session.
  - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
  - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion. (30-45 minutes total)
  - Press 3-4 (approximately 1# each) blocks of firm tofu to remove excess liquid (can just pat tofu dry if using extra firm tofu)(10 minutes to prep; demo and roasting occurs during class session)
  - Prepare demonstration for Smoky Baked Tempeh (10 minutes to prep; demo and roasting occurs during class session)

- Prepare demonstration for Roasted Squash and Root Vegetables (10 minutes to prep; demo and roasting occurs during class session)

Session:

- Notes to instructors:
  - Preheat more than one oven, if available; trying to cook everything in one oven prevents dishes from browning.
  - Have students prepare each dish to the point of getting it onto the pan ready for roasting. When all pans of a given recipe (i.e., from all groups making it) are ready for the oven, place all of the pans into the oven all at the same time to limit the number of times the oven gets opened (e.g., prep all tofu and then place in the oven, etc.). If you don't do this, items will not finish in the allotted time and will not develop the desired caramelization.
- Introduce instructors & faculty volunteers.
- As a preview to the dinner discussion, instructors and/or faculty volunteers can share clinical correlations/vignettes on how the topics of this session relates to patients they've seen or to clinical care.
- Intro: students will work in teams of 2 to make either Roasted Tofu with Peanut Sauce plus Roasted Squash and Root Vegetables or Smoky Tempeh plus Roasted Cauliflower with Cumin (roasted root veggies and tempeh take more time than the other dishes so it works best not to have a group make both of these items unless they are particularly fast cooks).
  - Techniques covered:
    - New knife skills: Cut root vegetables batonnet or into uniform-sized, rustic pieces; preparing and chopping winter squashes
    - Roasting vegetables: try winter squashes, root vegetables, and cruciferous vegetables
    - Simmering tempeh to mellow flavor and make more palatable
    - Seasoning and roasting tofu and tempeh
  - Explain that baking and roasting are two words that mean the same thing—cooking with dry heat. This means cooking without a liquid or sauce (marinades and dry rubs are OK) and cooking uncovered.
  - **To get everything done in time, all items need to go into the oven as fast as possible. Save any steps that can wait—such as preparing the peanut sauce—until after items are in the oven. If your group tends to run over time, you may want to purchase or prepare pre-chopped butternut squash as this item is most time-consuming for students to chop. If you utilize this time-saving tip, consider demonstrating how to chop butternut squash after students get item into the oven.**
  - The same timing applies as other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)
  - Instructors will demo the following recipes to the point just before placing in the oven before students start cooking (all can be cooked at the same time as student dishes in the ovens):
    - Baked Tempeh:
      - How to simmer or steam, marinate, and then bake/roast tempeh
    - Tofu:
      - Show students how to press tofu with options to:
        - Bake in a marinade
        - Bake without a marinade on a baking sheet lined with parchment paper or a silicone baking mat, sprayed with nonstick spray, or wiped lightly with oil.
        - Roast with simple seasoning (tamari, honey, garlic +/- ginger)
    - How to peel, cube, and prepare butternut squash and selected root vegetables for roasting
    - How to chop cauliflower and prepare for roasting (if not covered in Session 2). Alternatively, if time is short, this can also be done by walking around to help student groups while they chop.
  - Student cook as described above.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- While walking around and assisting students, be sure to mention proper selection and storage of foods used in the session (especially if not covered in previous sessions). You can also point them to the Food Safety handouts listed under session materials for more information.
- Most of the preparations covered in this session can be made in advance, which can help with packing lunches and making weeknight dinners during the school year easier.
- Family cooking tip: mention that all of the prep work in this session could be done with children of all ages, but that using the oven and hot pans on the stove should always involve close adult supervision.
- When roasting, it is important to cut ingredients into roughly equal-sized pieces so that they take the same amount of time to cook. The same is true for sautéing and stir-frying.
- Tofu takes up flavor, crisps, and browns better if the liquid is pressed out of it ahead of time.
- Tempeh should be steamed or simmered in water before cooking to add moisture and remove some of the bitter flavor.
- Remind students that for health—particularly reversal of diet-related diseases—it is best to opt for predominantly whole, plant-based foods.
- For patients uninterested in cutting out animal sources of protein completely from their diets, learn to counsel on how to reduce the portion size and increase plant foods by using the *Protein Flip.*

Dinner Discussion

- Briefly discuss the health benefits plant-proteins. Mention that a balanced WFPB diet includes plenty of all essential amino acids.
- If they ask about health versus sustainability, here is a quick rule of thumb:
    - *Most to least sustainable foods are generally*:
      whole plant foods>>processed plant-based meat alternatives, eggs, poultry> dairy, seafood>>beef and other red meat
    - For processed plant foods, healthfulness varies by item as does sustainability.
    - For dairy, weaned mammals (e.g., human adults) do not need dairy for health, but do need some nutrients commonly found in dairy, such as calcium. Calcium can be obtained from most plant-based milks, greens, beans, tofu, and a variety of other foods prevalent in the WFPB diet. See Introduction section on "Where Do You Get Your Calcium?" for more details. There is much debate in the scientific community about whether or not dairy can be part of a healthy diet. This is covered in more detail in Session 6: Healthy Breakfasts.
- "Health Benefits of Plant-based Proteins" is included as a handout for today's session. A variety of articles related to risks to health and the planet of red and processed meat are included in the Optional References. Feel free to remind them to look at these if they have questions.
- As mentioned in the previous session, beans and legumes are the ideal first food for infants (beginning at 6 months of age) because they're rich in iron.
- Plant-based proteins can provide enough protein for children of all ages. Early introduction of nuts (as butters, don't give whole nuts to infants or toddlers) may reduce the risk of food allergies and will not increase the risk of food allergies.[89]
- Remember the Protein Flip!
    - Remind students that for health—particularly reversal of diet-related diseases—it is best to opt for plant-based proteins.
    - Learn to counsel on how to reduce portion sizes of animal sources of protein and increase servings of plant foods by using the *Protein Flip* for those not interested in completely cutting animal sources of protein out of their diet.
        - For more details on the *Protein Flip*, see "Tips for Shifting Away from Diets High in Meat and Added Sugars" in the Introduction.

- Discuss WFPB sources of Omega-3 fatty acids (e.g., walnuts, hemp seeds, flaxseeds, algae/seaweed, algal-based supplements). Explain to students that fish concentrate Omega-3's from the algae (or other fish) they eat, rather than make it de novo. For more details, see "Where Do You Get Your Omega-3 Fatty Acids?" in the Introduction.
- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal prepared in the session including an easy change to make it one of the following: more affordable, in-season, culturally appropriate, faster to prepare, or using other ingredients or flavors.
    - Example role play prompt: Imagine that the patient you're seeing is a 39-year-old father of two and the lead cook in the household. The patient loves grilling a variety of kinds of meat and does so several times per week. Some of their family favorites include porterhouse steaks, pork tenderloin, and bratwursts. Describe some strategies you would use to counsel him on ways that he can eat a healthier amount and variety of protein. Role play the interaction with one of the instructors acting as the patient and a student acting as the health care provider. Bonus: brainstorm ways for the patient to involve his family in meal preparation.

NOTE: IF NO OVEN IS AVAILABLE, make the following changes to the session:

- Omit Roasted Squash and Root Vegetables.
- The following recipes can be altered slightly and prepared either in skillets on the stove top/induction burner or on an electric grill/griddle. An outdoor grill can also be used, but a grill basket is recommended to make vegetable cooking easier. From a culinary perspective, it is not recommended to cook tofu or tempeh completely oil-free on an outdoor grill or electric grill without a nonstick coating as these items would be likely to stick. Even a very small amount of oil can be very helpful for outdoor grilling or cooking in a pan without a nonstick coating. If you want to minimize oil use, opt for vegetables less likely to stick to the grill (i.e., non-starchy vegetables).
    - Tofu: prepare as indicated but instead of roasting, cook in a skillet (non-stick will work best) over medium heat or on an electric grill/griddle over high heat. Do not disturb tofu until the side touching the skillet browns and forms a slight crust, then turn over or toss, and repeat. Disturbing too early will cause the tofu to stick, fall apart, and not brown properly.
    - Tempeh: cook via the same method described for tofu, above.
    - Cauliflower (and/or broccoli, summer squash, carrots, peppers, asparagus, or any other vegetable that can cook quickly on the stove top or electric grill/griddle):
        - Skillet method: instead of roasting, heat skillet until very hot over high heat, then add water or oil (whatever your preference for sautéing is), swirl in pan, then add vegetables and do not move until the side touching the pan is browning. (There will be more browning if using oil than if using water to sauté.) Then, toss and repeat until just able to be pierced with a fork without too much force (aka. fork tender).
        - Grill: heat electric grill to high (or use outdoor grill when heat is still high [charcoal] or set at medium-high flame [gas]). Meanwhile, vegetables can be brushed or sprayed lightly with water, oil, a marinade, or other dressing, then sprinkled with any other seasonings desired, pepper, and salt. Place vegetables onto the grill and allow to cook undisturbed until grill marks develop on the underside of the vegetables. Then, turn and allow to cook until vegetables are tender; at this stage grill marks may or may not have developed on the underside of the vegetables—they will only develop if your electric grill is good at maintaining heat.
- It is recommended to still describe the processes of roasting and baking since they are essential skills but highlight that the goal is to develop caramelization and flavor. This is mimicked on the stovetop or grill with the instructions above.
    - Also define grilling: to cook on a grate over open flame or hot coals. Alternatively, one can also cook on a grate that is heated via electricity, as is done with an indoor electric grill.
- Instead of, or in addition to, the above suggestions, if no ovens are available for this class, you can encourage students to try the recipes in their home ovens and report back and/or share pictures, including their experiences cooking with family members when applicable.

- This class session could also be altered so the cooking portion of the session is homework, then the discussion can be done in-person or via discussion board or web conference online. There are a variety of creative ways to cover content that requires an oven even if you do not have them available in your teaching kitchen space.

Related Nutrition/Clinical Correlates in the Curriculum:

- Sustainability vs. Health (Introduction, Optional References)
- Common misconceptions about WFPB diets: Where do you get your ____? (Introduction)
- Health Benefits of Plant-based Proteins (Handout)
- Food Facts: Safe Food Handling (Handout)
- Early exposure to peanuts to limit risk of allergy (Optional References)

Optional References:

1. Willett WC, Rockstrom J, Lang T, et al. *EAT-Lancet Commission Summary Report.* 2019. https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/.
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4. Gonzalez-Garcia S, Esteve-Llorens X, Moreira MT, Feijoo G. Carbon footprint and nutritional quality of different human dietary choices. *Sci Total Environ.* 2018;644:77-94. 10.1016/j.scitotenv.2018.06.339.
5. Bouvard V, Loomis D, Guyton KZ, et al. Carcinogenicity of consumption of red and processed meat. *The Lancet Oncology.* 2015;16(16):1599-1600. 10.1016/s1470-2045(15)00444-1.
6. National Cancer Institute. *Chemicals in Meat Cooked at High Temperature & Cancer Risk.* 2017. https://www.cancer.gov/about-cancer/causes-prevention/risk/diet/cooked-meats-fact-sheet.
7. Rosi A, Mena P, Pellegrini N, et al. Environmental impact of omnivorous, ovo-lacto-vegetarian, and vegan diet. *Sci Rep.* 2017;7(1):6105. 10.1038/s41598-017-06466-8.
8. Pitt TJ, Becker AB, Chan-Yeung M, et al. Reduced risk of peanut sensitization following exposure through breast-feeding and early peanut introduction. *J Allergy Clin Immunol.* 2018;141(2):620-625 e621. 10.1016/j.jaci.2017.06.024.

**See Introduction section on "Sustainability and Health" for additional references.*

Session 4

Soups and Salads

Soups and salads are important dishes in any cuisine, and one or the other is almost always present in a WFPB meal.

Soups range from thin, warming broths, to creamy purees, to thick, chunky stews. They can be side dishes or main courses. Soups represent an excellent opportunity to reduce food waste—produce past its prime can be turned into a broth, stock, or soup to be consumed right away or frozen for a later meal. Frozen soup can be taken as an easy work or school lunch that needs no refrigeration—just reheat before enjoying.

When you think of salads, think beyond pale, iceberg lettuce with dry shreds of carrots. Salads are limited only by your imagination. They can be simple side salads with just a few ingredients or can serve as a full meal complete with whole grains, beans, other legumes, any number of vegetables, fruits (dried and fresh), nuts and seeds, tied together with the slightly acidic tang of a good dressing.

In this session, each student team will prepare one soup, one dressing, and make a green salad with a variety of toppings. During the dinner discussion, students will get the opportunity to taste soups and salads made by the other students and instructors. Students will expand on their salad knowledge in Session 5 to build veggie, whole grain, and bean bowls.

Goals

1. Execute knife skills for vegetables and apples.
2. Deconstruct the steps in making the French mother sauce, vinaigrette, and determine ways to vary the sauce using other ingredients.
3. Create no- and low-oil dressings using the principles of vinaigrette-making along with techniques specific to no- and low-oil dressings.
4. Recommend healthy salad dressing options.
5. Compose high-fiber dishes and demonstrate how to prepare at least one.
6. Prepare dishes from recipes and identify the general cooking principles underlying the recipes.
7. Describe how to prepare a soup that is low in sodium using homemade vegetable broth.
8. Investigate Mediterranean, North African, and New American flavors.

Objectives

1. Prepare a no- or low-oil dressing. Alternatively, prepare a vinaigrette, using creative variations on the classic vinaigrette.
2. Demonstrate how to dress a salad with minimal dressing and maximal flavor.
3. Taste a green salad made with a healthy alternative for creamy dressings.
4. Observe a demonstration of how to wash and store salad greens and herbs, then execute the same steps at home.
5. Observe a demonstration on how to use vegetable scraps to make vegetable stock, then evaluate how you might execute a similar recipe at home.
6. Prepare a pureed vegetable soup or a vegetable-bean stew, then taste and evaluate the flavors.
7. Discuss the benefits of fiber in the diet after preparing and tasting high-fiber foods.
8. Share a healthy, WFPB meal of salads and soups and describe how these dishes can improve health.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
    - Review all recipes
    - How to Wash and Store Fresh Greens & Herbs
    - Food Storage 101 (Revisited from Session 1—focus on ingredients applicable to Session 4)
    - Food Facts: New and Improved Nutrition Facts Label
- Videos:
    - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*
        - Video introduction to Mediterranean and North African flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in Mediterranean and North African cuisines)
        - Video introduction to New American flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in New American cuisine)
        - How to make a no-oil and low-oil dressings as well as a basic vinaigrette plus variations (similar to recipe instructions for the session)
        - How to wash and store greens (wash, spin dry, wrap in or cover with towel, store in refrigerator either in plastic bag or covered bin)
        - How to make a simple, massaged kale salad (similar to recipe for the session)
        - How to make vegetable stock using standard recipe or scraps (similar to recipe for the session)

Optional

- Handouts/Weblinks:
    - Oil Smoke Points (Handout)
- Videos
    - Video for each recipe
    - How to cut apples, pears, and stone fruit (how to peel, pit, slice, and dice)(Required in Session 8)

Meal Description

Butternut Squash & Apple Soup with Sage, Veggie Chili with Beans, Simple Kale Salad, Salad Bar with a Variety of No-oil and Low-oil dressings and Vinaigrettes (optional).

Recipes

- Basic Vinaigrette with Variations, optional to make but good to review for basic cooking principles
- Balsamic Vinaigrette 3 Ways: Convert a traditional balsamic vinaigrette to low-oil and no-oil dressings
- No-oil and Low-oil Dressing Options for Salad and More (Includes: Berry Balsamic Dressing, Lemon Tahini Dressing, Easy Peanut Sauce, Creamy Pesto Dressing, Creamy Italian Dressing, Carrot Ginger Dressing, Cashew Ranch Dressing, Soy Sesame Ginger Dressing, and Soy Lemon Vinaigrette)
- Butternut Squash Apple Soup with Sage
- Veggie Chili with Beans
- Simple Kale Salad (can be made in either Session 4 or Session 5, for Session 4 this will be demonstration-only due to time constraints)
- Vegetable stock (for reference only, will not be made in class)

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion—have a plan for flatware, dishes, beverages, tables, and chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion. (45-60 minutes)
    - Extra equipment: if not usually available in the kitchen space, try to bring a couple blenders (or immersion blenders) for this session since many of the no-oil and low-oil dressings are blended. If making the Creamy Pesto Dressing, you will also need a food processor.
    - Clean and dry kale for the Simple Kale Salad: set up demo station if preparing in Session 4. (15 minutes)
    - Set out a variety of seasonings, vinegars, citrus, herbs, other flavoring ingredients and oil (optional), for students to use to make no-oil and low-oil dressings, and optional vinaigrettes. (Provide 8-ounce jars with lids, if possible, for them to shake up and/or take home the dressing they make.) (15 minutes)
    - Make a salad bar display of prepped salad greens, toppings, bowls, and tongs for students to use to make/toss salads with their homemade dressings. (15-30 minutes)
    - It is recommended to buy prewashed/prepared or baby greens to save time, but you may want to get one head of lettuce to demonstrate how to select, wash, dry, and store the lettuce.
    - Place small mixing bowls and tongs near the salad station so that students can dress and toss their own salads.
    - Easy salad bar ingredients include dried fruit, berries, nuts, seeds, roasted and cubed tofu, any type of beans, shredded carrots, sprouts, any chopped veggie, cherry tomatoes, leftover cooked whole grains, etc.

Session:

- Introduce instructors & faculty volunteers.
    - Can also have faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
        - Oftentimes, pediatricians and parents will encourage kids to dip vegetables in ranch dressing—this session is a great opportunity to introduce students to other kinds of dressing that are healthier options for kids to use to add flavor to vegetables.
        - Soups and stews are also an easy way for families to use or repurpose leftovers or cook in batches to make it easier on school nights.
- The same timing applies as other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.
- Intro: students should work together in groups of 2 to practice making a soup and a dressing for a salad. Assign half of the pairs of students to make Butternut Squash & Apple Soup and the other half to make Veggie Chili with Beans. Use premade vegetable stock or water for the soups.
    - Student tasks for the day:
        - Have students start on soups immediately and let them know that once they have everything simmering in their pots, instructors will talk about stocks and demonstrate how to make different types of salad dressings. Then, students can then try making their own salad dressings or vinaigrettes. Students must work quickly on the soups or they will run out of time.

        - Remind students to clean as they go so they don't run out of time for the dinner discussion. Use bus tubs for dirty dishes, take completed soups to serving table with serving utensil(s), and place dressings on the salad bar table.
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)
- Soups / Stocks
    - Instructors will walk around and assist students with cutting up the butternut squash (if not demonstrated in Session 3), potatoes, and apple, if needed.
    - After soups are simmering, instructor explains how to choose the healthiest pre-made stock options. Remind students to refer to the "Food Facts: New and Improved Nutrition Facts Label".
    - Handout for details about how to read labels.
        - *Consider providing a few different commercially prepared stock labels for students to practice reading in class or during the dinner discussion. Alternatively, you could post copies of the labels on the course website and engage in an online discussion around this topic.*
    - Highlight that making your own stock always tastes better, has very little sodium, can save money, and prevents food waste. The recipes for the session include Homemade Vegetable Stock—From Scraps or Recipe even though it is not being made in class due to time constraints.
- Demonstrations and discussion in the kitchen (occur after getting soups/stews simmering, but before students make their own salad dressings):
    - Washing and storing salad greens and herbs:
        - Instructor should remind students about the "How to Wash and Store Salad Greens & Herbs" handout and then demonstrate what is described in the handout. Make sure to bring a salad spinner, gallon Ziplock bag, and paper towels to demonstrate this if these are not normally available in your teaching kitchen.
    - No-oil and Low-oil Salad Dressing and Vinaigrettes:
        - While the soups/stews are simmering, instructor(s) show(s) a variety of acids, flavoring ingredients, and oils (optional) than can be used to make no-oil and low-oil dressings and vinaigrettes (optional).
        - Dressings to cover in class:
            - If running the course entirely WFPB, you can opt to skip or shorten the section on vinaigrettes, below, and spend more time on no-oil and low-oil dressings. If you have sufficient class time, try to cover both in detail. It is helpful to understand the principles of making vinaigrettes before trying to understand how to make good no- and low-oil dressings. While many people can follow a good recipe, it is more difficult to learn to create delicious, de novo no- and low-oil dressings than it is to make tasty vinaigrettes.
            - If vinaigrettes are made in class (instructions/details follow), instructors should make a couple of the no-oil or low-oil dressings from the class recipes for students to taste in class, and consider doing a taste test of greens dressed in the 3 versions of the balsamic vinaigrette in the Balsamic Vinaigrette 3 Ways: Traditional, Low-oil, and No-oil, and then discuss the differences in the recipes and ingredients included (details follow).
        - Vinaigrettes: *(This is covered first because understanding the principles of vinaigrette-making helps one to understand how to make tasty no-oil and low-oil dressings.)*
            - Discuss and demonstrate how to make a classic vinaigrette by shaking in a jar (describe that they could also be whisked or blended).
            - Remind students to look at the Basic Vinaigrette recipe and Vinaigrette Variations chart (in recipe section). Tell them to get creative with the one that they make (if making vinaigrettes in class).
            - Share with students that the easiest way to make vinaigrette at home is to put all of the ingredients into a jar and mix by shaking.

        - They will all get to take home their own jar of vinaigrette.
        - Kids love to help with this in the kitchen and it is a good opportunity to talk about the science of food (i.e., trying to combine oil and water and why the two don't mix without an emulsifier).
    - Vinaigrettes can be a part of a predominantly WFPB diet but would not be featured in an entirely WFPB diet. This is because oil is used to make a vinaigrette, however the serving size is small. Very little of this type of sauce is needed per serving of a dish for maximal flavor, texture, and mouthfeel. After demonstrating and discussing a classic vinaigrette, contrast this will the no-oil and low-oil dressing recipes/methods.
    - Vinaigrettes are a French mother sauce. Mother sauces are the base sauces that all other sauces derive from in French cooking. Many of the French mother sauces would not feature prominently in a WFPB diet but understanding some basics of French cooking can help one to build a solid culinary skills foundation—even if ingredients are altered for health purposes. Any combination of about ¼-⅓ cup vinegar (or other acidic ingredient, such as citrus juice) and ⅔-¾ cup oil is a vinaigrette (can also think of this as 1 part acidic ingredient to 2-3 parts oil). All other flavorings, seasonings, and additions dictate other flavor directions the sauce can take.
    - Adjusting acidity: When tasting a vinaigrette or other salad dressing as you make it, you want it to be a little sour or it won't taste right when you put it on food. If it is too sour, add another tablespoon or two of oil (for vinaigrettes, use other non-acidic ingredients in a given recipe to balance if making no-oil dressings), repeating as needed until flavor is balanced. If it's not sour enough, add another tablespoon of the acidic ingredient.
- Oils (Optional to cover):
    - This is a good time in the curriculum to mention oils, if covering. Oils are pressed or extracted from whole, plant foods such as avocados, olives, nuts, and seeds. As mentioned previously, when used in limited quantities, they can be part of a predominantly, but not entirely, WFPB diet. Oils vary widely in their flavors and uses. Even if using small amounts of oil, it is important to understand the smoke points of the oil(s) you use as oil heated to the point where is smokes and begins to break down not only imparts a bitter, acrid taste to food but also creates free radicals. See the "Oil Smoke Points" handout (optional) for details about what temperatures different types of oils and fats can be heated to. (From a culinary standpoint, "fat" more often refers to animal fat. From a nutrition standpoint, "fat" refers to the macronutrient which can either be plant or animal derived.) Those with smoke points below 350°F (175°C) should generally be used only for cold preparations. Oils such as vegetable, soybean, peanut, canola, grapeseed, avocado, and safflower have little taste and should be used when you don't want to feature the flavor of the oil. Other oils—such as those from walnuts, hazelnuts, and toasted sesame seeds—are meant to be used only in very small amounts for flavoring a finished dish and shouldn't be used as a cooking oil. Extra virgin olive oil has a relatively low smoke point and the oil will always impart flavors of olives. Virgin, Pure, and Light olive oils are more refined, can be heated to higher temperatures, and have less olive taste.
- No-oil and Low-oil dressings:
    - Making delicious, low- or no-oil dressings requires some special techniques. Common pitfalls of no- and low-oil dressings are being too watery, acidic, or bland. Commercial options available in the supermarket often substitute high-fructose corn syrup and other added sugars for part of the oil and then add gums and stabilizers to add a pleasant mouthfeel and sufficient body to a dressing that would otherwise be watery. There are a few tips and tricks to learn that can help solve these issues without relying heavily on sweeteners, gums, or stabilizers. In fact, the no-oil and low-oil dressings covered in this curriculum avoid gums and stabilizers, and limit added sugars.
    - If there is time in class, it is recommended that students and/or instructors make all 3 versions of the balsamic vinaigrette in Balsamic Vinaigrette 3 Ways: Traditional, Low-oil, and No-oil. Dress greens with each dressing and do a taste test. Discuss the differences in the recipes and ingredients included as the oil is reduced in the recipe.

        - Traditional Balsamic Vinaigrette: is the traditional 1:3 parts vinegar to oil ratio with added garlic to flavor and either Dijon mustard or agave syrup to help bind the dressing together and prevent separation, while also adding to and balancing the flavor.
        - Low-oil Balsamic Vinaigrette: adds miso to help offset the acidity of the 1:1 vinegar to oil ratio. The miso, along with the Dijon or agave syrup also help to add body to the dressing which is thinner than the traditional due to the replacement of ⅔ of the oil with water.
        - Creamy Balsamic Dressing (No-oil): increases the miso to further offset the acidity of the vinegar now that oil is excluded from the recipe. This recipe must include something sweet to further offset the acidity—a date or bit of agave syrup or honey all work well. Silken tofu is included to add body, along with the miso and Dijon.
    - Traditional vinaigrette recipes can be made into no-oil dressings using the same principles used here to transform the Traditional Balsamic Vinaigrette into the Creamy Balsamic Dressing (no-oil version).
    - While the Creamy Balsamic Dressing is very low in fat and calories, other oil-free dressings take a different approach by using nuts, nut butters, or seed butters to add body and flavor-conveying fats. See the recipes for Creamy Italian Dressing, Cashew Ranch Dressing, Lemon Tahini Dressing, Creamy Pesto Dressing, and Easy Peanut Dressing for examples. Others remain low-calorie, but instead of trying to replicate a vinaigrette, use fruit and vegetable juices, herbs, spices, garlic, and/or ginger and other strong flavors to create interesting dressings; the Berry Balsamic Dressing and Carrot Ginger Dressing are good examples.
    - Low-oil dressings can have more or less total fat than the no-oil dressings. This is because no-oil dressings range from completely fat-free to being high in fat owing to a large quantity of nuts, avocados, olives, nut or seed butters included in the recipes. Low-oil dressings get most of their fat from oils, but the amount of oil is much reduced from that in a traditional vinaigrette.
- How to dress a salad properly:
    - Regardless of which type of dressing you use on a salad, it is important to learn how to properly dress a salad. Begin with a mixing bowl that is much larger than the contents you plan to add to it. Add all salad ingredients. Drizzle with dressing and toss to coat; season with pepper and a pinch of salt (optional). For traditional vinaigrettes, you would want the greens and other ingredients to have a slight sheen when held up to the light, but when the ingredients are pushed to the side of the bowl, there should be no puddle in the bottom. This will maximize flavor, minimize extra calories, and limit how fast the salad gets soggy. For no-oil and low-oil dressings, try using the same method, then taste. If the salad is bland, add more dressing, toss, and taste again. Repeat this process until you like the end result. Salads dressed with no- and low-oil dressings often need a larger volume of dressing to achieve the best flavor. Highly acidic, low-fat, or fat-free dressings also tend to make salad greens wilt quickly, so make sure to dress salads immediately before serving. The exception to this rule is kale salad (more on this below).
- Creamy Dressings:
    - Either select a pair of students to prepare the Cashew Ranch or Creamy Italian Dressing during class or have one of the instructors prepare it ahead of time. Include it in the salad bar and discuss over dinner. This can lead to a brief discussion of the healthfulness of fat from nuts and seeds versus dairy products. See Optional References for additional reading.
- Massaged Kale Salad:
    - If time permits, instructor(s) can demonstrate how to make the Simple Kale Salad. Alternatively, this can be covered in Session 5. If you cover details of no-oil and low-oil dressings and vinaigrettes, you won't have time to cover kale salad in this session.
    - The combination of lemon juice (or any acidic ingredient, such as juice of another type of citrus fruit, or any type of vinegar), salt, and olive oil help to break down the fibrous structure of the kale to make it easier to chew and digest, and more pleasant to eat. You can omit the oil, but you will need to massage the kale a bit longer. If omitting the oil, you will want to dress the salad with a no-oil dressing after the massaging process.

        - Remember: if eating the salad alone as a main dish, make sure it contains some fat—ideally from whole, plant foods such as nuts, seeds, avocado, or olives. Fat is needed to absorb the fat-soluble vitamins (i.e., A, D, E, and K) in the salad. If eating as a side dish, some type of fat need only be incorporated into the meal as a whole.
        - Kale salads are a great time-saving option since they can be dressed well in advance of eating and enjoyed for up to 3 days if highly perishable ingredients, like avocado and chopped tomatoes, are omitted.
- In the kitchen time remaining after the instructor demonstrations/discussion, student pairs should finish their soups/stews and place in the appropriate area for dinner service, make a dressing of their choice (or one assigned to them by instructors) and place it near the salad bar for dinner service, and clean up.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- While walking around and assisting students, be sure to mention proper selection of produce and other whole food items used in the session (especially if not covered in previous sessions). You can refer them to the "Food Storage 101" and "How to Wash & Store Greens and Herbs" handouts for information on storage.
- Highlight that squash and sweet potatoes are healthier alternatives to white potatoes (due to having more fiber, higher levels of Vitamin A, and lower glycemic indices).
- Mention that veggie chili is a great way to get a lot of fiber into the diet (i.e., via beans and added veggies) in a way that is familiar to a lot of people.
    - Fiber is useful to build our microbiome, stay "regular", prevent and reverse cardiovascular disease, and control cholesterol.
    - Fiber, drinking plenty of water, and regular physical activity are particularly important for those with a history of constipation.
        - Since the period of time when infants begin to incorporate solid foods is often associated with constipation, this is another reason why incorporating beans and vegetables as early foods in infant's diet is a good idea.
- Both of the soups freeze and reheat well.
- Mention that the dressings covered in this session can be used not only for salad dressing for green salads, but also for marinades, vegetable dips, tossing ingredients in before roasting, or drizzling over whole grain and bean salads.
    - Quick tip: for weekday lunches, batch prepare a salad dressing and divide into single serving containers for healthy grab-and-go options.
- For most salads, you want to dress right before serving or the greens will get soggy. However, kale salads hold up—and even improve—after being tossed or massaged with dressing and allowed to stand for 30 minutes or more.

Dinner Discussion

- If not covered in the kitchen portion of the session, take the time to pull out the recipes for the 3 versions of Balsamic Vinaigrette and discuss details of how to successfully make traditional vinaigrettes and how to use the understanding of how to make this mother sauce as the foundation of understanding how to make delicious no-oil and low-oil dressings (see details in Session outline, above).
- Discuss the health benefits of fiber. All dishes made today are high in fiber. Adults need 20-30 grams of fiber per day at minimum to be healthy, but most get much less than this. Fiber is a type of carbohydrate that cannot be digested by the human body but can be digested to varying degrees by bacteria in our guts. Fiber helps to control blood sugar and cholesterol, aids in keeping hunger under control, and helps prevent heart disease, diabetes, and constipation. Recent studies have shown that high-fiber diets improve the diversity and type of bacteria living in our digestive tracts—these bacteria are collectively called the microbiome. This is thought to be part of what leads to the health benefits of fiber, but it is still an area of active study. A healthy microbiome is important to the immune system and helps to prevent inflammation in the body. A high-fiber diet and healthy microbiome can even help to counteract some of the negative health impacts of animal proteins and fats in the diet.[90]
- Have students identify the groups of foods that are high in fiber: beans, vegetables, fruits, nuts, and whole grains.

- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that we prepared in the session including an easy change to make it one of the following: even more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Prompt: You are in pediatrics clinic talking to a mother who brings in her 10-year-old fraternal twins who have body mass indices above the 85th percentile (the cut-off for being overweight in pediatrics). In discussing potential contributors with the children and mother, it seems that time and money are limited. In addition, the children have not been particularly interested in eating vegetables. On further questioning, you also learn that both parents also do not eat many vegetables. How would you counsel this family to help improve their vegetable (and fiber!) intake using some of the lessons learned in today's session?
        - Tips to increase vegetable intake for kids:
            - Parents model eating and enjoying vegetables
            - Cook and shop together as a family.
                - Use this as an opportunity to talk about colors, shapes, and practice math with children.
                - You can also use shopping as an opportunity to have kids name produce items or ask questions about the items they haven't seen before.
            - Making meal prep fun! Experiment with different colors, shapes, and textures. Make salad art. Kid LOVE shaking the jars of salad dressing.
            - Make a salad bar and allow each person to add the veggie items they want to try.
                - Giving kids, especially picky eaters, choice is important and can decrease stress at mealtimes.
            - Make a list of the vegetables that family members like and try to work in these vegetables as often as possible.
            - Aim to try new vegetables prepared in new ways on a regular basis—many people find that they like a vegetable they previously didn't like if it is prepared in a different way.
            - Cut down/out screen time and use that time for making healthier meals.
        - Provide or discuss tips for eating healthy on a budget. The "Shopping for Healthy Food on a Budget" handout is a great resource.
        - Screen for food insecurity and refer to free, healthy food resources if appropriate. See Introduction section on *Food Insecurity* for more details.

Related Nutrition/Clinical Correlates in the Curriculum:

- Health benefits of fiber and nuts (Optional References)
- Remember to accentuate the positive & use motivational interviewing (Introduction)
- Eating healthy on a budget (Introduction)
- Shopping for Healthy Food on a Budget (Handout)
- Food insecurity (Introduction)

Optional References:

1. Ros E. Health benefits of nut consumption. *Nutrients.* 2010;2(7):652-682. 10.3390/nu2070652.
2. Holscher HD. Dietary fiber and prebiotics and the gastrointestinal microbiota. *Gut Microbes.* 2017;8(2):172-184. 10.1080/19490976.2017.1290756.
3. Threapleton DE, Greenwood DC, Evans CE, et al. Dietary fibre intake and risk of cardiovascular disease: systematic review and meta-analysis. *BMJ.* 2013;347:f6879. 10.1136/bmj.f6879.
4. Makki K, Deehan EC, Walter J, Backhed F. The Impact of Dietary Fiber on Gut Microbiota in Host Health and Disease. *Cell Host Microbe.* 2018;23(6):705-715. 10.1016/j.chom.2018.05.012.

Session 5

Beans & Whole Grains: Building Healthy Bowls

Learning to cook with a variety of beans and whole grains is one of the cornerstones of eating a healthful WFPB diet. This is because regularly eating these foods is one of the best, most economical ways to ensure adequate protein, fiber, and iron in a WFPB diet. For example, if an adult eating 2,000 Calories per day eats 1 cup of cooked black beans and 1 cup of cooked quinoa, they consume >75% of their daily value (DV) of fiber, nearly 50% DV of protein, and 34% DV of iron. If these items are cooked at home, the cost is far less than 1 U.S. Dollar—substitute brown rice for the quinoa and this would halve the price (40% DV protein, >25% DV iron).

Beans and whole grains are a perfect canvas for adding seasonings, sauces, vegetables, fruits, nuts, and seeds to create an endless variety of meals. Putting these items together in a bowl is sometimes referred to as a "Buddha bowl." Here, we describe this as "Building Healthy Bowls." In addition to learning to prepare whole grains and beans, in this session, students will draw on the cooking techniques and nutrition knowledge they've already learned to build delicious, healthy bowls filled with vegetables, whole grains, beans, nuts, and seeds.

Goals

1. Reflect on traditional whole grain and legume combinations in world cuisine and evaluate how meals featuring these combinations can supply all essential amino acids in a healthier—and often more environmentally sustainable—way than many animal-based protein choices.
2. Distinguish how to cook whole grains by either boiling like pasta or in measured liquid.
3. Investigate how to cook dry beans by first soaking and then simmering in water.
4. Create whole grain and bean bowls with vegetables and other plant-based toppings.
5. Evaluate how altering seasonings, sauces/dressings, and ingredients can yield many different flavorful, affordable, healthy meals.
6. Describe how to prepare a bean and whole grain bowl using culturally appropriate ingredients.

Objectives

1. Engage in an interactive demonstration using two methods of cooking whole grains (i.e., boiling like pasta and cooking with measured amounts of water and grains).
2. After observing demonstrations of two methods of cooking dry beans (e.g., boiling and either slow cooking or pressure cooking), decide which you would like to try at home.
3. Rinse canned beans and add to a veggie, whole grain, and bean bowl.
4. Create one sauce/dressing to dress a veggie, whole grain, and bean bowl.
5. Execute cooking and chopping techniques learned in past sessions to prepare produce to add to a veggie, whole grain, and bean bowl.
6. Share a healthy, WFPB meal made up of whole grains, beans, and a variety of types of cooked and raw produce, nuts, seeds, and sauces/dressings.
7. Role play motivational interviewing with a patient to make healthy (and tasty!) changes to their diets to prevent, treat, or reverse disease.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
  - Review all recipes
  - How to Cook Beans
  - Shopping for Healthy Food on a Budget
  - How to Cook Whole Grains
  - Cooking Chart for 1 Cup of Dry, Whole Grains
- Videos:
  - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*
    - How to cook beans (include a variety of ways: soak or not, stovetop, pressure cooker, slow cooker, similar to recipes and handouts for session)
    - How to make hearty, veggie, whole grain, and bean bowls (aka. Buddha bowls) (similar to recipes and handouts for session)
    - Introduction to Middle Eastern flavors (examples of beans, whole grains, vegetables, fruit, nuts, seeds, herbs, spices, and other flavoring ingredients prominent in Middle Eastern cuisine)

Optional

- Videos
  - Video for each recipe
  - Introduction to Mediterranean & North African flavors (Required in Session 4)
  - How to Roast Nuts (Required in Session 8)
  - Traditional Whole Grain and Legume Combinations in World Cuisine (examples of beans and whole grains in different cuisines of the world)

Meal Description

Assortment of healthy bowls highlighting a variety of types of beans, quinoa, brown rice, homemade hummus, veggie patties, raw and roasted vegetables, massaged kale salad, assorted toppings, and sauces.

Recipes

- Building Healthy Bowls
  - Creamy Balsamic Dressing
  - Soy Sesame Ginger Dressing
  - Lemon Tahini Dressing
  - Easy Peanut Sauce
  - Creamy Pesto Dressing
- Create Your Own Veggie Burgers and Patties
- Hummus & Bean Dips
- Massaged Kale Salad (If not covered in Session 4)
- How to Cook Whole Grains

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion—have a plan for flatware, dishes, beverages, tables, and chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Special equipment: if you want to demonstrate how to cook beans in a slow cooker or pressure cooker, bring these items to class (optional).
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion.
    - Set up stations for demonstrating cooking quinoa and brown rice (5-10 minutes)
    - Set up station to demonstrate making a massaged kale salad, if not covered in Session 4 (5 minutes)
    - Cook one or more types of beans ahead of time for use in comparison tasting with canned beans (active time: 15 minutes, but need to plan for soaking overnight and 1-2 hours cooking time) This is optional, you can just use canned beans for ease and refer students to the "How to Cook Beans" handout and related video(s).
    - Put a large stock pot of water on to boil while preparing for the session—especially if using induction/ portable burners—because it will take a long time to boil enough water for the quinoa (which will be cooked like pasta). You may need to use 2 pots. (Active time <5 minutes)

Session:

- Introduce faculty volunteers.
- Intro:
    - Let students know that today they will work together to create a wide variety of ingredients and toppings to be used in building healthy bowls for dinner. Explain that all items need to be placed on a table like a buffet when completed. Each student will assemble their own, unique bowl for dinner. Before they start cooking there will be a few demonstrations, so they should wash their hands and can start getting the ingredients that they'll use for cooking until everyone is ready to listen/watch the demonstrations.
    - Review the text at the start of the Instructor's Outline for Session 5 with the students so that they know the general purpose of the session. More details will be covered during the dinner discussion.
    - Students will, again, work in teams of 2.
        - Each team should make a dressing that they didn't make in a prior session. Remind all teams to drain and rinse any canned beans they're instructed to use.
        - Additionally, the following need to be assigned to teams to complete. (You may want to write these instructions on slips of paper and hand them to the student teams.)
            - *Team 1* should roast vegetables using whatever is available, executing the technique with a recipe or from memory (they can get as much help as needed from instructors or their classmates). They should also drain and rinse one type of canned beans and place on the service table.
            - *Team 2* should make homemade hummus.
            - *Team 3* should make a bean dip that is different from hummus (uses the same recipe but uses alternative ingredients).

        - *Team 4* should use their knife skills to chop fresh vegetables and herbs to use for toppings. (Pick the team that needs the most practice with this.) They should also drain and rinse one type of canned beans, then sauté them with any spices of their choice before placing them on the service table.
        - *Team 5* Should make veggie patties (aim for falafel-size) using the "Create Your Own Veggie Burger or Patties" recipe as a guide. They can recruit others to help them finish toward the end of the class when some of the faster items have been completed.
        - *Team 6* should assist in finishing cooking whole grains after the demonstration. They can also circulate to help whichever teams need help. This team should be the most advanced and/or can be omitted if there aren't enough students to make 6 teams as the instructors can also do these tasks.
    - The same timing applies as other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.
        - Remind them to clean as they go so they don't run out of time.
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)
- Instructor(s) demonstrate(s):
    - How to measure enough brown rice for a serving for each person (¼ cup or slightly less dry grain per person), rinse and drain it, then add to a pot with the appropriate measure of water and cook (Use "How to Cook Whole Grains" and "Cooking Chart for 1 Cup of Dry, Whole Grains" as guides). Once boiling and after reducing heat to low, cook for 35-40 minutes and then, without removing lid, turn off heat and let rest until ready to serve.
    - How to measure enough quinoa for a serving for each person (¼ cup or slightly less dry grain per person), rinse it, then add it to the pot(s) filled with boiling water and cook as one would pasta until done (will take 12-15 minutes, the opaque spot in the middle of the quinoa present early on in cooking should grow more translucent until no completely opaque spots remain). When done, drain in a strainer and run cool water over it to stop cooking. Let drain thoroughly and then transfer to a serving bowl and place on the buffet table.
    - Massaged Kale Salad (If there was not time to cover in Session 4, follow recipe instructions):
        - The combination of lemon juice (or any acidic ingredient, such as juice of another type of citrus fruit, or any type of vinegar), salt, and olive oil help to break down the fibrous structure of the kale to make it easier to chew and digest, and more pleasant to eat. You can omit the oil, but you will need to massage the kale a bit longer. If omitting the oil, you will want to dress the salad with a no-oil dressing after the massaging process.
        - Remember: make sure that salads (meals eaten with salads) contain some fat—preferably from whole, plant foods such as nuts, seeds, avocado, or olives. Fat is needed to absorb the fat-soluble vitamins (i.e., A, D, E, and K) in the salad.
        - Kale salads are a great time-saving option since they can be dressed well in advance of eating and enjoyed for up to 3 days if highly perishable ingredients, like avocado and chopped tomatoes, are omitted.
- Student teams cook as above for the remainder of the class.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- While walking around and assisting students, be sure to mention proper selection of produce and other whole food items used in the session (especially if not covered in previous sessions). You can refer them to the "Food Storage 101" and "How to Wash & Store Greens and Herbs" handouts for information on storage.
- Whole grains and legumes come in a wide variety of options and are great options to have on hand to make a wide variety of healthy, plant-based meals--not just bowls! Think about Jamaican red beans and rice, Costa Rican gallo pinto, Rajma (kidney bean curry), Black-eyed Peas and Rice. Almost all cultural food traditions include some type of grain and bean dish!

- Beans are easy and great choices for first foods for infants beginning around 6 months of age because they're rich in iron and fiber.
- Some grains and legumes are quick to cook (e.g., quinoa, lentils), while others should be prepared in advance in a slow-cooker or on the stove (e.g., black beans, navy beans, pinto beans).
- Bowls provide an easy last-minute meal that dresses up leftovers with a sauce and other toppings. Cooked beans and whole grains can be frozen in individual- or family-sized portions, then quickly heated in the microwave for quick weeknight meals. Frozen and reheated beans and whole grains are indistinguishable in flavor from freshly prepared to all but the most refined palate. Add leftover chopped fresh or roasted vegetables, nuts, and seeds—even berries or dried fruits—to make this even more tasty and nutritious.
- Leftover ingredients from making healthy bowls can be repurposed to make soups and salads, such as those covered in the previous session.

Dinner Discussion

- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
- Discuss the concept of using bowls as a great way to use leftovers and tailor a meal to personal preferences (see comments in *Key Points for Instructors/Faculty Volunteers to Discuss with Students*, above). This "build your own" concept can be especially useful when cooking for a family or group with varying dietary preferences. Kids may prefer to have separate piles of items on their plate and a little dish of sauce for dipping.
    - This also helps with variety for family members that don't like leftovers.
- Building healthy bowls is a great way to encourage people to try new ingredients. With children, encourage trying new foods and "eating the rainbow", but don't battle over food choices. For kids asserting their preferences and independence, arguing about food choices tends to make them less, not more, likely to try new foods. A better approach is to present healthy food options numerous times. Sometimes it takes many tries before a child develops a taste for certain ingredients. Also, giving children a choice in food selection can decrease the likelihood of a battle at mealtimes and helps them to feel empowered.
- One of the great timesavers in the plant-based kitchen is to always make extra beans, whole grains, and any other item that can be repurposed or frozen for later use.
- Healthy bowls can be batch prepped for a few days or for the week as long as chopped tomatoes (whole cherry tomatoes are OK), sliced avocado, and leafy greens are left off. These items can be added the day-of eating. Make sure dressing is in a separate container on the side. They make great packed lunches for children and adults.
- Recall the high-fiber foods discussion from last week. A bowl made with ½ cup black beans, ½ cup quinoa, 1 cup massaged kale salad, sliced bell peppers, cherry tomatoes, pumpkin seeds, lemon tahini dressing and a couple of slices of avocado is only 450 Calories, but contains 60% DV for fiber, not to mention 40% DV for protein, >100% DV for Vitamin C, >10% DV for calcium, and 30% DV for iron. These bowls are nutritional powerhouses!
- Have students reflect on all of the cooking techniques they've learned thus far and how many of them they used to create the bowls today. The goal is to highlight how versatile these skills are and how many different types of meals the skills they've already learned can be used to create.
- For those who choose to include animal-based proteins that fall outside an entirely WFPB diet, the healthy bowl method is a great one to use to highlight the Protein Flip. This may resemble a bowl still comprised mainly of veggies, whole grains and beans, but may also contain a small serving (1-2 oz) of an animal-based protein.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that we prepared in the session including an easy change to make it one of the following: even more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Prompt: your turn! By this point in the course, instructors experienced in clinical care—even if not particularly experienced in the kitchen—likely have numerous example patient scenarios that can be used in a role play discussion. Use these, making sure to highlight common concerns for your patient population.

Related Nutrition/Clinical Correlates in the Curriculum:

- What is a Whole Grain? (Handout)
- Health benefits of whole grains and pulses (Optional References)
- Common misconceptions about WFPB diets: Where do you get your ____? (Introduction)
- Cultural Considerations (Introduction)
- Eating Healthy on a Budget (Introduction) and Shopping for Healthy Food on a Budget (Handouts)

Optional References:

1. Aune D, Chan DS, Lau R, et al. Dietary fibre, whole grains, and risk of colorectal cancer: systematic review and dose-response meta-analysis of prospective studies. BMJ. 2011;343:d6617.
2. Zong G, Gao A, Hu FB, Sun Q. Whole grain intake and mortality from all causes, cardiovascular disease, and cancer: A meta-analysis of prospective cohort studies. *Circulation.* 2016;133(24):2370-2380. 10.1161/CIRCULATIONAHA.115.021101.
3. Mudryj AN, Yu N, Aukema HM. Nutritional and health benefits of pulses. *Appl Physiol Nutr Metab.* 2014;39(11):1197-1204. 10.1139/apnm-2013-0557.
4. Wallace TC, Murray R, Zelman KM. The nutritional value and health benefits of chickpeas and hummus. *Nutrients.* 2016;8(12). 10.3390/nu8120766.

Session 6

****REMIND STUDENTS that their final project recipe is due no later than (time), (date). There are no exceptions since the food for them to cook with needs to be ordered in advance. They must use the provided recipe template.**

Healthy Breakfasts

If you have dedicated nutrition faculty at your institution, it would be particularly helpful to have one of them join this session (though not required)

The foods included in a breakfast meal vary around the world. In the U.S. where this curriculum was developed, breakfast is synonymous with eggs, sausages, bacon, pancakes, pastries, and sugary cereals or bars. None of these items are part of an entirely WFPB diet, and most aren't healthy by any standards.

What is someone wanting to eat healthy at breakfast to do? Key strategies to eat more healthfully at breakfast include leaning more on whole grain options, eating foods not traditionally considered as breakfast foods (think savory!), and drawing on other cultural food traditions (e.g., the Middle Eastern tradition of a variety of salads including legumes and vegetable-heavy dishes for breakfast). Whole grain breads, porridges, muffins, waffles, and pancakes can be healthy options—but one needs to develop solid nutrition label-reading skills or learn to prepare these items at home. Many breakfast options on grocery store shelves that advertise whole grains may still be high in more processed grains and/or contain large amounts of added sugars. In this session, students will learn to make predominantly WFPB dishes reminiscent of less healthy, common breakfast foods and practice reading nutrition labels.

Goals

1. Distinguish between healthy and less healthy carbohydrate options for breakfast.
2. Recognize and demonstrate how to cut sugar from common breakfast dishes.
3. Create healthy breakfast dishes that are suitable for someone with celiac disease.
4. Recommend a nutritionally balanced breakfast for someone who eats an entirely WFPB diet.
5. Illustrate at least one way to include vegetables at breakfast.
6. Determine two or more ways to include whole grains at breakfast.
7. Evaluate Nutrition Facts labels and ingredient lists to determine the most nutritious options.

Objectives

1. Prepare or taste a tofu scramble and be able to describe to another person how to prepare the scramble.
2. Read nutrition labels and compare the fat, sugar, vitamin, and mineral content of dairy and non-dairy milks and yogurts to identify differences and similarities.
3. Add healthy toppings to unsweetened, non-dairy yogurt or oats to create a no- or low-added sugar breakfast.
4. Taste and critique at least one healthy breakfast that includes vegetables.
5. Assemble, taste, and evaluate a breakfast dish that contain whole grains.
6. Share a WFPB breakfast and evaluate the nutritional benefits as a group.
7. Read nutrition labels and select items without added sugars and those that are good sources of calcium.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
    - Review all recipes
    - Recipe Template for Student Final Project
    - What is a Whole Grain?
    - Amount of Calcium in Non-dairy and Dairy Foods
    - Show Me the Sugar
    - Calculating Sugar
    - Food Facts: New and Improved Nutrition Facts Label
- Videos:
    - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*
        - How to make hot cereals, like steel-cut oats (via stove-top, slow-cooker, or Instant Pot)
        - How to make pancakes and waffles (should include proper mixing and cooking techniques)
        - Creative ways to add vegetables to breakfast (find examples of ways to work vegetables into breakfast, can include world cuisines where vegetables are common for breakfast, having dinner for breakfast, or other creative methods)

Optional

- Videos
    - Video for each recipe
    - Common misconceptions about WFPB diets: Where do you get your _____? (Introduction)
    - How to cut apples, pears, and stone fruit (how to peel, pit, slice, and dice)(Required in Session 8)

Meal Description

Tofu Scramble with Vegetables & Spices, Tofu Scramble—Scrambled Egg Replacement; Steel-cut Oats and Non-dairy Yogurt Parfaits with Toppings from a Topping Bar; Overnight Oats; Whole Wheat, Chickpea Pancakes; Whole Grain Omega-3 Waffles (or Pancakes)

Recipes

- Steel-cut Oats
- Non-dairy Yogurt Parfaits
- Tofu Scramble with Vegetables & Spices
- Tofu Scramble—Scrambled Egg Replacement
- Whole Wheat, Chickpea Pancakes
- Whole Grain Omega-3 Waffles
- Overnight Oats, optional

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion (after cooking)–have a plan for flatware, dishes, beverages, tables, and chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion. (Approximately 30 minutes)
    - Special equipment:
        - Bring a waffle maker if you have one. If not, there are instructions to make "Whole Grain Omega-3 Waffles" as pancakes.
        - Bring (or have students bring) jars to take home their overnight oats in.
    - Make a display with items grouped together for (1) tofu scrambles, and (2) pancakes and waffles (5-10 minutes)
    - In a separate area, make a buffet of toppings that will be used for both the steel-cut oats and non-dairy yogurt parfaits (15 minutes)
    - Bring a variety of the following for discussion and nutrition label reading and comparing practice, but keep in bags for ease of carrying to dining area (time included in shopping):
        - Yogurts: non-dairy unsweetened and sweetened yogurts made from soy/coconut/almond/cashews/ etc., unsweetened and sweetened flavored yogurts, Greek and regular (aka. European-style) yogurts, non-fat/low-fat/full-fat yogurts
        - Breakfast cereals: sugary and low-sugar options
        - Breakfast bars, protein bars, other meal-replacement bars or shakes
        - Milks: fortified non-dairy made from a variety of plants (bring both unsweetened and sweetened examples) and dairy options with a variety of fat contents and/or plants
        - Oats: steel-cut, rolled oats, and sweetened, flavored, instant oats
    - Drain tofu in a strainer while setting up for the class (<5 minutes)
    - Transfer non-dairy yogurt that will be used for the parfaits to a serving bowl (2 minutes, can also do during class)

Session:

- Introduce faculty volunteers.
- Remind students of instructions and final deadline for the Final Project written recipe. Encourage them to submit early so they have a chance to revise if they pick something that doesn't meet the guidelines (sometimes found when instructor reviews submissions) or they want to make something that needs extra coordination so there is time to discuss recipe feasibility for their Final Project. Also, encourage them to ask for help from instructors in adjusting recipes to be healthier. This is open-book, open-resource!
- Slightly different timing applies to this session because there needs to be extra time over the dinner discussion to practice reading nutrition labels—all cooking needs to be done in 1 hour (1 hour 15 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 45 minutes of class.

- Intro:
    - Briefly review details in the introduction to this session to set the stage for the day as some of the foods prepared may not be familiar to students.
    - Ask them to hold their nutrition questions about eggs and dairy for the discussion—ideally, have someone join the discussion (i.e., instructor or guest faculty) who is knowledgeable on current studies related to these items.
    - Describe the dishes to be made in the session (see menu/recipes). Explain that students will work in teams of 2. Have recipes written out on slips of paper for teams to draw to make sure all items are made and there are enough ingredients. Steel-cut oats should be brought up to the buffet table (covered) when finished. Everyone will get to make their own bowl of steel-cut oats, a non-dairy yogurt parfait, and taste the tofu scrambles, waffles, and pancakes. There will be leftovers to take home!
    - Mention the earlier clean-up time and the nutrition label reading activity to come.
    - There will be no demonstrations—they can jump right into cooking and instructors will come around to assist.
- Team recipe assignments:
    - Team 1: Makes steel-cut oats for the entire class. They will need to practice multiplying the recipe to yield the proper number of servings (aim for ½ serving per person.) Then, split up and assist other groups.
    - Team 2: Tofu Scramble—Scrambled Egg Replacement (Make a double recipe)
    - Team 3: Tofu Scramble with Vegetables & Spices (Make a double recipe, if cost permits)
    - Team 4: Whole Grain Omega-3 Waffles (or pancakes) (Make a double recipe, if cost permits)
    - Team 5: Whole Wheat, Chickpea Pancakes (Make a double recipe, if cost permits)
    - Team 6: Overnight Oats (Make a triple recipe). If there aren't enough students to make 6 groups, omit the recipe or have Team 1 make this.
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.), then gets started!

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- Steel-cut oats can also be made in a slow cooker by adding all ingredients and turning on the low setting overnight. You can make a week's worth, store what you don't eat the first morning in the refrigerator, and then reheat a single serving in the microwave each morning, thinned with a bit of water or a plant-based milk of your choice.
- Oats are preferred over rice cereal for infants due to the arsenic in rice cereal. You can buy and prepare the same healthy oats for you and your baby.
- If you don't want to make long-cook, steel-cut oats, you can make quick-cook (pre-cooked) steel-cut oats or rolled oats (which both take 7-8 minutes on the stovetop). However, the glycemic index is a little higher for both of these items compared with long-cook, steel-cut oats. However, both options are still better than quick or instant oatmeal).
- Mention that bean flours, such as the chickpea flour used in the Whole Wheat, Chickpea Pancakes, contains no gluten and is therefore appropriate for those on a gluten-free diet. However, lack of gluten also means that the texture of the finished product will differ from a similar product made with wheat flour. Bean flours also taste of beans to varying degrees. If you aren't concerned about eating gluten (see Introduction), then it is best to avoid making dishes with only bean flours—they taste much better and have a more pleasing texture when made with no more than ½ bean flour. Both gluten-free and standard versions are given for the Whole Wheat, Chickpea Pancake recipe.
- In baked goods, pancakes, and waffles, eggs are typically added to help leaven, tenderize, and bind ingredients together. When making these items without eggs, other ingredients need to take over these functions. Most baked goods and quick breads without eggs use flaxseeds, chia seeds, or mashed bananas to bind; extra baking soda or baking powder to leaven; and fat from another source (e.g., flaxseeds, chia seeds, oil) or mashed fruit or vegetables (e.g., bananas, applesauce, or pumpkin) to tenderize.
- Scrambled Tofu is gluten-free if tamari is used instead of soy sauce. Oats are gluten-free but are often cross-contaminated with gluten during processing. Those with celiac disease must purchase certified gluten-free oats.

Dinner Discussion

- Mention that quick breads (which include muffins and other breads made without yeast) will be covered in Session 8 with desserts.
- Eggs: If students ask about eggs, mention that research on the healthfulness (or lack thereof) of eggs is conflicting—some studies show that they are associated with heart disease and diabetes, whereas others do not show these associations. A couple contrasting references are given in the Optional References section at the end of this session. It is very difficult to study the long-term health effects of any single food as there are many other variables that impact health over the long term. Remind students that an entirely WFPB diet contains no eggs, but that a predominantly WFPB diet may contain limited amounts. Regardless, most people do not have trouble working eggs into their diet. Therefore, this session focuses on the inclusion of less controversial, less often eaten breakfast items.
- Yogurt: whether unsweetened, plain dairy products, such as yogurt, are healthy or unhealthy depends on a number of factors. Yogurt and other sources of dairy are not required as a necessary part of a healthy diet.[91] Some humans digest dairy well, while others do not. Dairy has been associated with both negative and positive health outcomes in studies of different populations, and those with different health statuses. Similar to eggs, research on the healthfulness of dairy is variable. Since this CM curriculum is designed to highlight whole food, plant-based nutrition in alignment with lifestyle medicine, dairy is not included, nor covered in detail. See the Introduction to learn more about plant-based sources of calcium. If counseling patients who wish to eat dairy-based yogurt, encourage them to opt for unsweetened, plain versions and add fruit, nuts, and any sweetener themselves. Even if they add their own sweetener, they are very unlikely to add the amount of sugar they would eat in presweetened versions. For example, a typical 5.3oz. fruit-on-the-bottom, berry-flavored yogurt contains 22g of sugar, or 5 ½ teaspoons—that's more than 8 tsp (nearly 3 tbsp) of sugar per cup of yogurt!
    - Clinical correlation—lactose intolerance: in infancy, lactose intolerance is exceedingly rare; however, the ability to digest lactose decreases significantly with age. While the exact prevalence of lactose intolerance is difficult to determine with precision, approximately 65% of humans have a reduced ability to digest lactose after infancy.[92] Prevalence of lactose intolerance (symptomatic reduced ability to digest lactose) varies across racial and ethnic groups. It is most common among those of East Asian descent (>90%), and least common among populations who have historically eaten relatively large quantities of unfermented dairy products such as those of Northern European descent (5%).[92]
- Instructors or Nutrition Faculty (if present) should lead a discussion using the items or packages brought by instructors including some of the following. Pass around items for students to look at while discussing.
    - Yogurts: non-dairy unsweetened and sweetened yogurts (made from soy, coconut, almonds, cashews, etc.), unsweetened and sweetened flavored dairy yogurts, Greek and regular (aka. European-style) yogurts of varying fat contents (e.g., non-fat, low-fat, whole milk, etc.)
        - Highlight the sugar content on the Nutrition Facts labels and compare with ingredient list items to look for added sugars. This should be done for the other items that follow as well.
        - Look at calcium content and compare and contrast. Note that all dairy yogurts are good sources of calcium, but non-dairy yogurts vary in their calcium content. Some non-dairy yogurts contain no calcium at all, while others have more calcium per ounce than their dairy counterparts.
        - Look at fat, saturated fat, and cholesterol and compare between dairy and non-dairy items.
    - Breakfast cereals: sugary and low-sugar options
        - Most commercial breakfast cereals are high in sugar. Granola is often thought of as healthy but is a high caloric option because it generally contains added oil and a lot of added sugar. Many kids' cereals have more sugar by weight than they have grain! It is far healthier to make oats at home, as shown in class, or look up some recipes to make granola with lower amounts of sugar at home.
    - Breakfast bars, protein bars, other meal-replacement bars or shakes
        - Companies are required to list items in order of weight in grams on the ingredient list. To avoid listing sugar first, many use many different forms of sugar so that no single form of sugar weighs more than a healthier ingredient. This allows a healthier item to be listed first in the ingredient list—a variety of types of sugar generally follow. This is true for any product including added sugars, not just bars.

        - In most cases, these items are highly processed and contain a long list of additives and chemicals that most people wouldn't recognize as food. Avoid these items.
    - Milks: fortified non-dairy made from a variety of plants (bring both unsweetened and sweetened examples) and dairy options with a variety of fat contents and/or plants
        - Note that fortified, unsweetened soymilk is similar in protein and calcium content to dairy milk but has only ~1g sugar per serving (neither has any added sugar). It is the most similar in nutrient profile to dairy milk of all of the non-dairy milk options and is considered a healthy substitute and alternative to dairy milk. For children drinking plant-based milks, opt for fortified, unsweetened soymilk over other plant-based milks unless there is a compelling medical reason not to.
        - People often ask about the safety of soy products. Minimally processed soy products don't pose a health risk to humans in general. However, it is unclear what the long-term health consequences are of high consumption of highly processed soy products (e.g., soy protein isolate, hydrolyzed soy protein, etc.). This is why you should opt for minimally processed foods when possible.
        - Oat milks have the second highest levels of protein of non-dairy milks. Other plant milks have weaker nutrient profiles, but since many are fortified, can be good sources of calcium and vitamin D.
    - Oats: steel-cut, rolled oats, and sweetened, flavored, instant oats
        - The more processed a carbohydrate, the faster it affects our blood glucose (See Introduction section on "Importance of Understanding How Foods and Meals Affect Blood Glucose and Food Choices"). Eating less processed carbohydrates helps with satiety and has a gentler effect on blood glucose. Steel-cut oats are similar enough to more processed oatmeal that people who like other types of oatmeal are generally accepting of this healthier alternative.
        - Most of the oatmeal that comes in flavored packets contain a high level of added sugar—and often contains more sugar by weight than oatmeal! Avoid these packets and make your own oats at home. Batch cooking either the Steel-cut Oats or the Overnight Oats recipe will save you time and money while improving your health.
- Discuss ways to add vegetables to breakfast. Brainstorm as a group and think beyond tofu scrambles. Draw from other cultural food traditions that the students/faculty present are familiar with. Consider lunch and dinner foods for breakfast.
- Family cooking tips:
    - Oftentimes, kids will say they don't like breakfast and that's why they don't eat it, but leftovers from other meals can be breakfast, too! This can also help decrease morning battles if kids are hesitant to make breakfast.
    - Think about ways to pack breakfast for families on tight schedules who may not be able to sit down and eat before going to work or school. Starting the day with a healthy breakfast helps improve attention at school/work and helps prevent unhealthy snacking.
- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
    - Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that we prepared in the session including an easy change to make it one of the following: even more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
        - Prompt: your turn! By this point in the course, instructors experienced in clinical care—even if not particularly experienced in the kitchen—likely have numerous example patient scenarios that can be used in a role play discussion. Use these, making sure to highlight common concerns for your patient population.

Related Nutrition/Clinical Correlates in the Curriculum:

- What is a Whole Grain? (Handout)
- Food Facts: New and Improved Nutrition Facts Label (Handout)
- Common misconceptions about WFPB diets: Where do you get your _____? (Introduction)

- Amount of Calcium in Non-dairy and Dairy Foods
- Show Me the Sugar (Handout)
- Calculating Sugar (Handout)
- Eggs, high-fat dairy, and health—Research shows mixed results (Optional References)

Optional References:

1. Zhong VW, Van Horn L, Cornelis MC, et al. Associations of dietary cholesterol or egg consumption with incident cardiovascular disease and mortality. *JAMA.* 2019;321(11):1081-1095. 10.1001/jama.2019.1572.
2. Hu FB, Stampfer MJ, Rimm EB, et al. A prospective study of egg consumption and risk of cardiovascular disease in men and women. *JAMA.* 1999;281(15):1387-1394. 10.1001/jama.281.15.1387.
3. Kratz M, Baars T, Guyenet S. The relationship between high-fat dairy consumption and obesity, cardiovascular, and metabolic disease. *Eur J Nutr.* 2013;52(1):1-24. 10.1007/s00394-012-0418-1.
4. The Nutrition Source. Calcium: What's best for your bones and health? *What Should I Eat?* https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/calcium-and-milk/calcium-full-story/. Accessed Oct 10, 2019.

Session 7

****REMIND STUDENTS that their final project recipe is due no later than (time), (date). There are no exceptions since the food for them to cook with needs to be ordered in advance. They must use the provided recipe template.**

Pastas and Sauces

Many cultural food traditions include some type of pasta dish, so learning to cook pasta in healthy, tasty ways and being able to describe this to patients are high-yield skills to learn. Pasta is a food that is often paired with some kind of fat in traditional cooking techniques—this fat often takes the form of olive oil, butter, lardons (i.e., pork fat or fatty bacon), cheese, or cream in traditional Italian cooking. Creating tasty pasta dishes that are in-line with an entirely or predominantly WFPB diet requires learning to work with a few new ingredients or common ingredients used in new ways.

It would take many classes to showcase all of the types of pasta available and how to prepare them in different food traditions. In this session, pasta sauces reminiscent of what one might find in Italy (but that adhere to a WFPB diet) are covered; pastas covered include spaghetti, a variety of whole grain pastas, gluten-free pasta, fresh and dried pasta, bean- or lentil-based pasta, and zucchini noodles (aka. "zoodles"). However, many lessons learned in this and prior sessions can be extrapolated and used in preparing other types of pasta—think soba noodles with the peanut sauce from Sessions 3 and 5, or rice noodles dressed in a lime sesame dressing using techniques learned in Session 4.

Goals

1. Produce pasta dishes with high vegetable-to-pasta ratios.
2. Create pasta dishes made with two different styles of sauces.
3. Evaluate the differences in types of pastas, their cooking requirements, and the best types of sauces to pair with each.
4. Identify which types of pasta are appropriate for those who are vegan, vegetarian, and gluten-free.
5. Prepare dishes from recipes and identify the general cooking principles underlying the recipes.
6. Describe how to prepare a healthy cream sauce alternative and decide how to make this appealing to someone who may not have tried one before.

Objectives

1. Prepare a tomato sauce, a broth-based sauce, pesto sauce, or non-dairy cream sauce.
2. Prepare one type of either fresh pasta or dried pasta.
3. Create a dish where vegetables are substituted for pasta.
4. Compare cooking and health aspects of fresh and dried semolina, whole grain, gluten-free, and bean- or lentil-based pastas.
5. Discuss the health benefits of making homemade pasta sauces and formulate methods to have these homemade sauces available for busy weeknight meals.
6. Share a healthy meal made up of pastas and vegetable "noodles" with a variety of sauces.
7. Role play motivational interviewing with a patient who has diabetes (or is concerned about carbohydrate intake) on how they can include pasta in their diet in healthy (and tasty!) ways.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
  - Review all recipes
  - Using Spiralized Noodles in Place of Pasta
- Videos:
  - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.*
    - How to cook and use pasta: fresh, dried, whole grain, gluten-free, traditional semolina, different shapes, when to add sauces, and what types of sauces to use
    - How to make pesto
    - Construct your healthy pasta plate (show images with lots of vegetables, decreased starch/pasta portions, trying salad before pasta, making vegetable-based sauces or toppings)
    - Making and using zoodles and other vegetable "noodles" (using a Spiralizer, peeler, or other device)

Optional

- Handouts/Weblinks:
  - Review all recipes
- Videos
  - Video for each recipe

Meal Description

Meal: Pasta Primavera with Fresh and Dried Pastas, Simple Tomato Sauce with Gluten-free Pasta and Zoodles (spiralized zucchini and summer squash), Pesto with Bean (or Lentil) Pasta and Zoodles, Cashew Fettuccine Alfredo, Cashew Alfredo with Zoodles, Plant-based Macaroni & Cheese, and Plant-based Parmesan.

Recipes

- Simple Tomato Sauce with Gluten-free Pasta
  - One group will try spiralized zucchini in place of pasta
- Pasta Primavera with Fresh and Dried Pastas
- Pesto with Bean (or Lentil) Penne Pasta
  - One group will try spiralized zucchini in place of pasta
- Cashew Fettuccine Alfredo
  - One group will try spiralized zucchini in place of pasta
- Plant-based Macaroni & Cheese
- Plant-based Parmesan

Class Session Outline

Instructor prepares ahead:

- Shop for session (estimated time, 1 hour)
    - Optional: purchase or take pictures of the labels of commercially prepared pasta sauces to compare with the nutrition information given in the recipes for sauces to be made in class. Also bring a package of instant noodles to highlight the high sodium, fat, and calorie contents as well as the additives.
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion (after cooking)–have a plan for flatware, dishes, beverages, tables, and chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.
- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion. (10 minutes, or more if making a salad)
    - Make a display with vegetables and pastas to be used in the dishes for the day. (10 minutes)
    - (Optional) Consider making a large green salad of some type to accompany the pasta dishes. (Time varies)

Session:

- Introduce instructors & faculty volunteers.
- Remind students of instructions and final deadline for the Final Project written recipe. Encourage them to submit early so they have a chance to revise if they pick something that doesn't meet the guidelines (sometimes found when instructor reviews submissions) or they want to make something that needs extra coordination so there is time to discuss whether or not their recipe is feasible for a Final Project. Also, encourage them to ask for help from instructors in adjusting recipes to be healthier. This is open-book, open-resource!
- Intro:
    - Let students know that different types of pasta and tricks needed to cook them properly will be discussed. There are a variety of recipes for the day, all of which are WFPB renditions of Italian-style pasta dishes.
    - Write the following on 12 slips of paper and let each team of 2 students (6 teams total) pick 2 slips of paper (or adjust based on the number of students you have in class). Each team makes 2 dishes, time permitting.
        - 1: Pasta Primavera with Fresh Pasta
        - 2: Pasta Primavera with Dried Pasta and White Beans
        - 3: Simple Tomato Sauce with Gluten-free Pasta
        - 4: Simple Tomato Sauce with Zoodles
        - 5: Pesto with Bean (or Lentil) Pasta
        - 6: Pesto with Zoodles
        - 7: Cashew Fettuccine Alfredo
        - 8: Cashew Alfredo with Zoodles
        - 9: Plant-based Macaroni & Cheese
        - 10: Plant-based Macaroni & Cheese
        - 11: Plant-based Parmesan
        - 12: Create Your Own Pesto—use the Plant-based Pesto recipe provided but substitute other greens, herbs, or vegetables for the basil and parsley; substitute other nuts or seasonings. Serve with pasta or zoodles of your choice. (See Pesto with Bean (or Lentil) Pasta recipe for tips.)
    - The same timing applies as most prior other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.

- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)
- Instructor discussion:
    - Pasta shapes: different *shapes* of pasta are used for different purposes in Italy. Lighter sauces are used with long, thin, or delicate noodles (like spaghetti or fresh pasta), whereas heavier sauces are used with sturdier noodles (like penne).
    - Using whole grain, gluten-free, and some bean- or lentil-based pastas present unique challenges in creating delicious dishes. These pastas tend to have stronger flavors than semolina pasta, and therefore need more strongly flavored sauces to balance them.
    - Gluten-free pastas do not tend to reheat well. Before making large amounts of leftovers, test the brand that you're using to make sure it holds up to reheating. Most wheat-containing pastas tend to reheat well, so it may be preferred to use these if planning to batch cook.
    - Don't overcook pasta. It is meant to be al dente, meaning there is a bit of chew to the noodles without being starchy. In Italy, pasta that will be served warm is generally cooked to a bit underdone, then the sauce is added, along with a little pasta cooking water to thin, and the pasta is cooked until al dente or desired serving texture. This way, the pasta absorbs the flavor of the sauce, resulting in a more flavorful dish.
        - It's especially important not to overcook gluten-free pasta, which will turn to mush because there is no gluten to hold it together.
    - Fresh pasta: this includes any pasta that hasn't been dried. Fresh pasta takes only a minute or two to cook. Don't walk away from it. Read and follow package instructions exactly. Make sure your sauce if ready before you start cooking fresh pasta. Instruct students making fresh pasta to wait until near the end of the class kitchen time to cook fresh pasta. They should make their other dish first.
    - Cooking method: from a culinary perspective, the traditional cooking method for pasta is to boil 4 quarts/liters of water per pound (445g) of pasta and salt with about 1 tbsp of salt. For health purposes, the salt can be omitted or greatly reduced; however, the pasta will taste blander than pasta cooked in salted water. If omitting salt, make sure to use interesting, flavorful sauces to ensure a tasty finished dish. Before draining, always reserve a little pasta cooking water in case you need it for your sauce. The starch in the water helps the sauce to cling to the pasta better than if you were to use plain warm water. The residual salt (if the water was salted) also adds seasoning. Then, drain in a colander without rinsing or coating in oil. Rinsing or coating in oil will prevent the sauce from sticking to the noodles and prevent the noodles from absorbing the flavor of the sauce, respectively.
- Students cook until time for clean-up and dinner discussion.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- While walking around and assisting students, be sure to mention proper selection of produce and other whole food items used in the session (especially if not covered in previous sessions). You can refer them to the "Food Storage 101" and "How to Wash & Store Greens and Herbs" handouts for information on storage.
- For those worried about the calories or carbohydrate content of pasta, a great tip for incorporating pasta into the diet in a healthy way is to start the meal with a green salad, then make sure to have a small/reasonable serving of pasta with a large portion of vegetables.
- Alternatively, substitute pasta with spiralized, non-starchy vegetables like zucchini or summer squash.
- Any of the pasta sauce recipes can be used over any pasta, the specific recipes and combinations given in this session are to make sure you're able to try a variety of sauces and pastas.
- Pesto is traditionally made by combining any oil with herbs or greens and then further flavoring the mixture with garlic, hard cheeses (like parmesan), and/or nuts. In the recipes for this session, a WFPB adaptation is made from a traditional pesto recipe. To make a variety of types of WFPB pestos, use the recipe given in this session as a base and substitute similar types of ingredients for each item (e.g., other nuts for the pine nuts, other vegetables, greens, or herbs for the basil and parsley, etc.).
- Time-saving tips: Make extra pasta for lunch the next day. Use leftover beans or vegetables to top your pasta for a quick, healthy, and affordable meal.

- For those opting to use the *Protein Flip*, a couple ounces of any grilled or seared animal-based protein (or meatballs) would be added to these otherwise WFPB recipes.

Dinner Discussion

- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
- Mention the health benefits of making homemade pasta sauces: reducing sodium, added sugar, calories, saturated fat, and cholesterol.
    - If available, briefly review labels from commercially prepared pasta sauces and instant noodles to compare with nutrition information provided with the recipes for this session.
        - This is a good activity to do with kids. Have them compare sugar, saturated fat, and sodium contents of different sauces and hunt for added sugars in the ingredient lists. For families that rely on prepared sauces, engage them in a discussion of how to make these items healthier.
        - Instant noodles are a staple for many students and families due to ease of preparation and low cost. Have students brainstorm other low-cost, quick alternatives and/or "risk reduction" (e.g., adding vegetables and cutting portions of instant noodles, etc.).
- For those worried about the calorie or carbohydrate content of pastas, great tips for incorporating pasta into the diet in healthy ways include:
    - Start the meal with a salad, then make sure to have a small/reasonable serving of pasta and a large portion of vegetables,
    - Use veggie "noodles" (aka. zoodles) in place of pasta, or
    - Increase the amount of vegetables in the sauce so the ratio of vegetables to pasta is higher.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that was prepared in the session including an easy change to make it one of the following: even more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Prompt: Counsel a patient with type 2 diabetes about how they can include pasta in their diet in a healthy (yet tasty!) way that helps prevent a spike in blood sugar. The patient typically eats a large plate of fettuccine alfredo at least once a week that racks up 1,830 calories (almost all they need for the day), 82 grams of saturated fat (almost 4 days' worth), 1,071mg of sodium (half a day's worth) and 104 grams of carbs (3.5 servings or about 7 carb counts).
        - As a group, elicit at least 5 healthy changes that the patient can make while preparing and eating pasta that will maintain satiety while decreasing the amount of sodium, saturated fat, cholesterol, calories and carbohydrates in the overall meal. You can adjust the pasta recipe as well as other components of the meal, if needed.

            Examples of student responses:
            - Turn the large plate into a smaller plate to lower the number of calories without changing the taste.
            - Processed store-bought sauces often have more fat, sugar, sodium, etc., than homemade ones so we would encourage the patient to make them from scratch.
            - Alfredo sauce is high in fat—especially saturated fat—given its classic ingredients: butter, cream and cheese. The recipe we made in class replaced those with a base of stock and cashews to limit unhealthy fats.
            - Starchy fettuccine noodles could be replaced by zucchini or bean- or lentil-based noodles to give some more substance to otherwise empty carbs.
            - Provide the patient with our pesto and tomato sauce recipes so they can mix things up and try new sauces while adding more nutrients to their diet.

Related Nutrition/Clinical Correlates in the Curriculum:

- Common misconceptions about WFPB diets: Where do you get your ___? (Introduction)
- Calorie Density (Handouts)
- Health benefits of increasing vegetable intake and substituting other foods for refined carbohydrates (Optional References)
- What about gluten? (Introduction and Optional References in Session 2)
- Importance of understanding how foods/meals affect blood glucose and food choices (Introduction, and header in the Pasta Primavera Recipe)
- Tips for Helping Others Move Toward Healthier Diets (Introduction)

Optional References:

1. Maki KC, Phillips AK. Dietary substitutions for refined carbohydrate that show promise for reducing risk of type 2 diabetes in men and women. *J Nutr.* 2015;145(1):159S-163S. 10.3945/jn.114.195149.
2. Wang X, Ouyang Y, Liu J, et al. Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: Systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ.* 2014;349:g4490. 10.1136/bmj.g4490.

Session 8

Generally, the final project recipe is due prior to this session, but if this is not the case for your class, make sure to remind students of the due date and other details

The Dessert Flip & Healthy Desserts

Rather than focusing entirely on overtly healthy desserts, this session also addresses how to include more decadent treats without risking one's health and waistline using a strategy called the *Dessert Flip*. The *Dessert Flip* is similar to the *Protein Flip* in that it includes significantly reducing the portion size of a decadent or less healthy item and pairing it with another food that is tasty and healthy. For example, instead of having a large piece of dessert, opt for a very small portion (e.g., a couple of bites) and pair it with fresh fruit. (The *Dessert Flip* is covered in more detail in the Introduction section.) Recipes that should be served via the *Dessert Flip* method are labeled accordingly. Fruit desserts that are delicious and healthy in their own right are also covered. This session doesn't include any "diet" desserts made with a lot of substitutions to make them look appealing, while tasting nothing like the original. However, details of how to make healthier substitutions in baking that still result in delicious baked goods—such as quick breads—are covered, using Banana Bread as the test case.

Goals:

1. Create dishes showcasing the *Dessert Flip*.
2. Evaluate which types of desserts are more healthful than commonly available fare and practice making them.
3. Demonstrate the basics of baking a dessert quick bread and deduce changes that can be made to standard recipes to make more healthful quick breads.
4. Execute knife skills for a variety of fruits and use simple techniques to dress up fruit for dessert.
5. Prepare dishes from recipes and identify the general cooking principles underlying the recipes.
6. Propose ways to make desserts healthier without sacrificing flavor.

Objectives:

1. Observe demonstrations of how to make dessert quick breads (aka. simple cakes), quick temper chocolate, dip fruit and nuts in chocolate, and plate a dessert via the *Dessert Flip* method.
2. Prepare a warm dessert—either apple crumble, banana bread, or grilled fruit.
3. Design an attractive design plate using chocolate, fruit, and nuts.
4. Discuss and hypothesize how to use whole grain flours, less sugar, and healthier fats when making desserts typically composed primarily of white flour, white sugar, and butter.
5. Conduct a chocolate tasting and evaluate the differences between chocolates of varying cacao content.
6. Role play motivational interviewing with a patient who has difficulty controlling their intake of added sugars and sweets about healthier ways to satisfy their sweet tooth.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
  - Review all recipes
  - Measuring Math
  - How to Make Tasty, Healthy Substitutions: Banana Bread (or Muffins)
- Videos:
  - *Note: If course-specific videos are unavailable, it is recommended that instructors find similar videos online—such as those from a reputable culinary education program or vetted videos from YouTube—to assign students to*

watch ahead of class so they come in with at least some knowledge of, or experience with, the techniques to be covered in each session. Below are examples of videos that would helpful for this session.

- How to temper chocolate and melt chocolate without tempering (include the Professional Method for tempering and something resembling the Quick Method which is melting chocolate without tempering)
- How to make quick breads (proper mixing and baking techniques)
- The Dessert Flip (examples of appealing, small-bite desserts served with fresh fruit)
- How to cut melon (deseed, slice with and without rind, large dice)
- How to cut kiwifruit (cut in half and scoop out with spoon, then slice, or other methods)
- How to cut apples, pears, and stone fruit (how to peel, pit, slice, and dice)
- How to roast nuts

Optional

- Videos
  - Video for each recipe

Meal Description

Chef's choice main course salad(s) to be served alongside the desserts: Apple Crumble with Raw Walnut Topping and Cooked Oat Topping, Chocolate-dipped Strawberries & Dried Fruit, Chia Pudding, Chocolate Silk Pie with Berries, Fresh Fruit Salad with Mint, Tropical Fruit Salad with Lime Yogurt Sauce, Dark Chocolate with Fruit and Nuts, Grilled Fruit, and Banana Bread (or Muffins).

Recipes

- How to Temper Chocolate—Professional Method and Quick "Temper" Method
- Chocolate-dipped Strawberries and Dried Fruit
- Apple Crumble without an Oven
- Chia Pudding with Fresh Fruit
- Fresh Fruit Salad with Mint
- Tropical Fruit Salad with Lime Yogurt Sauce
- Chocolate Silk Pie
- Dark Chocolate with Fruit and Nuts
- Banana Bread (or Muffins)—for kitchen with an oven
- Grilled Fruit—for kitchen without an oven

Class Session Outline

Instructor prepares ahead: *(this is the most time-consuming session to prepare for, plan extra time.)*

- Shop for session (estimated time, 1 hour)
- Print recipes and staple into packets (estimated time, 15-30 minutes)
- Prepare a space for dinner discussion—have a plan for flatware, dishes, beverages, tables, and chairs. (estimated time, 15 minutes)
- Prepare kitchen (15 minutes) or set up pop-up kitchen for class session (30-60 minutes)
  - To limit dishes afterward, make available only tools and equipment needed for the session.
  - Either arrange food ingredients that will be used in the session attractively in a central location or divide ingredients between cooking stations.
  - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.

- Prepare food items ahead of time—preliminary prep for session and/or additions to what students will prepare that will make sure a full meal is available for the dinner discussion. (Varies from 1 hour to 1-½ hours depending on choices below)
    - Special equipment:
        - If planning to temper chocolate, bring an accurate digital thermometer for this purpose. If doing the *How to Temper Chocolate—Quick "Temper" Method*, no thermometer is needed.
        - Jars or other small lidded containers (or have students bring them) to take home chia pudding.
        - Ideally, have more than 1 food processor or blender available, but even if you only have 1, you can still run the session.
        - If your kitchen doesn't have an oven, omit the Banana Bread recipe, and either bring an electric grill for Grilled Fruit, or omit both recipes. There are still plenty of desserts without either of these recipes.
    - Prepare filling for Chocolate Silk Pie the day before and refrigerate overnight along with the coconut milk or coconut cream for an optional topping. (10-15 minutes)
    - Optional: prepare a main course salad(s) for the dinner so that students aren't just eating dessert. A hearty, whole grain, bean, and veggie-rich salad would be ideal. (Time varies, approximately 30-60 minutes)
    - If tempering chocolate using the Professional Method, it's best to do this only if there are 2 instructors. One instructor does the "melting" portion of the recipe right before the start of class, then they can stir occasionally while the chocolate cools for the "tempering" portion of the recipe (which is by far the most time consuming portion) while doing the class introduction and getting students started in the kitchen. Reheat briefly for the "rewarming" portion once students are working (and the other instructor is helping them) and dip a few strawberries or dried fruits for examples. Arrange a station for students to join, and as they finish with their dishes, then can join the instructor with the chocolate to dip fruit. If instructor(s) have not successfully tempered chocolate before, it is not recommended to try this for the first time in class, just omit. (10-15 minutes immediately prior to class start time)
    - Make a display of chocolates of different percentages of cacao for students to taste-test. (5 minutes)
    - If you can find videos to have students view ahead of time to show how to make quick breads, chia pudding, date puree (aka. date paste), and flax eggs, it will save time in the session. Otherwise you may want to consider demonstrating or describing how to make these items. Plan in extra time to prepare these demonstrations, if applicable.

Session:

- **See *Instructor prepares ahead* section above for details of how to incorporate the Professional Method for tempering chocolate. If you opt not to do this to save time, omit one of the recipes assigned to a team below, and instead assign them to use the Quick Method to "temper" chocolate.**
- Introduce instructors & faculty volunteers.
- Intro:
    - Let students know that the desserts made today will be a mix of those that are healthy on their own and those that illustrate the *Dessert Flip*. Describe the *Dessert Flip* (see the introductory blurb, above, for Session 8 and Introduction section of the curriculum for more details).
    - There is a lot to cover today, so ask them to try to finish their assigned recipe as soon as they can. Let them know that there are a few special techniques in the recipes today that they should ask instructors to help with including making flax eggs (for Banana Bread, if making), making date puree (optional for Apple Crumble), roasting nuts (Dark Chocolate with Fruit and Nuts), how to bake quick breads (Banana Bread), and how to grill fruit (Grilled Fruit). New knife skills include chopping apples, stone fruit, and kiwifruit. These techniques, along with how to temper chocolate, make the base for Chia Pudding, and the filling for the Chocolate Silk Pie, will be discussed over dinner or demonstrated, depending on time available in the session.

        - Whenever possible, instructors should call attention to the team that is using one of these techniques and students who are at a place in their cooking/baking that they're able to look up from their cooking can do so.
    - Students will work in teams of 2 on the following items:
        - **Note: if you choose to use the Quick "Temper" Method for the chocolate, you can omit one of the recipes below, and assign one team to Quick "Temper" the chocolate.**
        - Team 1: Apple Crumble with Raw Walnut Topping
        - Team 2: Apple Crumble with Cooked Oat Topping
        - Team 3: Chocolate Silk Pie (use filling made ahead by instructor)
        - Team 4: Tropical Fruit Salad with Lime Yogurt Sauce
        - Team 5: Banana Bread or Muffins (no-oven option: Grilled Fruit done on grill or in a skillet)
        - Team 6: Fresh Fruit Salad with Mint; Dark Chocolate with Fruit and Nuts
    - After finishing assigned recipes, students should go to the station set up to practice dipping fruit in chocolate (Recipe: Chocolate-dipped Strawberries and Dried Fruit) until 10 minutes before clean-up.
        - While students dip, instructors can conduct whatever demonstrations there is time for.
        - Students should also try the different chocolates available, from least to most cacao content and note the differences in flavors and textures.
    - 10 minutes before clean-up, all students should help to make a topping bar for chia pudding—attractively set out nuts, fresh and dried fruits, cocoa nibs, and/or flaked coconut on a table to be used for serving. These items can be those that students have left over from their assigned recipes.
    - The same timing applies as other sessions—all cooking needs to be done 45 minutes before the end of class (30 min if you have cleaning staff) to allow for cleanup. Dinner discussion will take place the last 30 minutes of class.
- Everyone washes hands and prepares to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.)
- Start cooking!

Demonstrations and/or Discussions on Baking (Optional):

List of items to formally or informally demonstrate as time permits during the class session. Unless stated, you can just call attention to the group working on the recipe containing the item to be demonstrated as you help that group. If you don't have time to demonstrate, describe during the dinner discussion or send links with example videos to students

- How to make flax eggs:
    - 1 flax egg is meant to replace 1 medium or large chicken egg in a recipe. Flax eggs are made by adding 1 tbsp ground flaxseed meal to a measuring cup and filling with very hot or boiling water for a total volume of 1.5 ounces (requires just under 3 tbsp of hot water).
    - Flax eggs are typically used in baking rather than in raw preparations since they don't whip up like egg whites. They mainly fulfil the binding and fat/moistening functions of eggs, but don't fulfil the rising function. When replacing more than 1-2 eggs in a recipe, you should replace only 1-2 of the eggs with flax eggs and the remaining eggs with Egg Replacer or just increase the leavening agents and liquid agents in the recipe a bit.
- How to make date puree (aka. date paste)
    - Date puree is made by food processing pitted dates, adding just enough boiling water to allow mixture to become a smooth paste. In order to have this conveniently on hand, you may want to make a larger batch than is needed for this recipe and freeze it. It is scoopable in frozen form due to the high sugar content.
    - This option can be part of an entirely WFPB diet but is not substantially different from other types of sweeteners in terms of health. If this is not worth the hassle to you, use another type of sweetener. Make sure your diet is low in added sugars from either dates or more refined sugars to maintain health.
- How to roast nuts
    - Heat oven to 350°F (175°C). Spread any type of raw nuts in a single layer on a sheet pan (put only one type of nuts on a single sheet pan as different types roast for different lengths of time) and place in the oven. Stir

after 5-10 minutes and then check every couple of minutes thereafter for doneness. Perfectly roasted nuts are those that have begun to darken ever so slightly in color (more than that indicates that they have burned), the smell of roasted nuts without any burnt smell, and when squeezed in the palm of the hand, get hotter and hotter until you need to let go to prevent a burn (those that cool quickly when held in a fist have not heated all the way through and are underdone).

- How to properly mix and bake quick breads and test for doneness (for kitchens with an oven)
    - Quick breads and cakes are often confused for each other. The category of quick breads includes any bread, muffin, biscuit, scone, or similar baked good leavened without yeast (usually by baking soda or baking powder). Cakes can be leavened with or without yeast. In professional baking, a cake has roughly the same amount of sugar as flour by weight, whereas a quick bread contains more flour than sugar. However, many bakeries and pastry shops make cake batter and bake it into quick bread shapes. For example, most of the muffins sold commercially are really muffin-shaped cakes! When baked well, quick bread can be a healthier alternative to cake. When using quick breads as dessert, it is best to serve a small slice and pair it with fresh fruit via the *Dessert Flip* method. You can use some of the changes shown in the Banana Bread recipe for making substitutions, to make it healthier, but with additive changes, at some point it will taste less rich and not like a dessert.
    - Tips for quick bread baking success:
        - Make sure oven is fully preheated. Work quickly after mixing dry and wet ingredients. Moisture and heat activate the leavening and if you don't bake it quickly or bake in an underheated oven, it will not rise as much as expected.
        - Spray the pan with non-stick spray, then line bottom with parchment paper. This prevents sticking. For muffins, line muffin cups with paper liners and spray with non-stick spray.
        - Measure ingredients exactly in baking. Measuring matters far more in baking than cooking. Unless you are an expert baker, you will need to exactly measure ingredients and follow the instructions to get them to turn out.
            - Professional bakers generally weigh ingredients rather than measure volumes as home bakers do. This is because a volume of flour, for example, varies greatly by the method used to scoop it, humidity in the air, type of flour, etc. Since professional bakers make very large batches, the slight errors in volume measuring would get multiplied, yielding disastrous results.
        - If any powdery ingredients (flours, baking soda, baking powder, cocoa powder, etc.) are lumpy, sift all of the dry ingredients together to remove lumps.
        - Do not overmix! Quick breads have less sugar than cakes. With less sugar (and less fat), gluten is more likely to develop. A small amount of gluten development in baked goods is necessary to prevent them from crumbling apart (this is why gluten-free baked goods contain gums to hold them together). However, too much mixing will turn your quick bread dense and chewy (undesirable qualities). To prevent overmixing, fold wet and dry ingredients together with a spoon or spatula just until combined; it's OK if there are a few lumps of dry flour remaining. Do not whisk.
        - Testing for doneness: insert a toothpick or skewer into the center of a quick bread and remove. If the quick bread is done, no batter should cling to the toothpick (crumbs are OK).
- How to cut apples
    - Peel if desired. Cut in half through the stem end. Lay each half cut-side-down on the cutting board. Cut lengthwise from stem to flowering end. It is now easy to core the apple. Take each quarter flat on the cutting board with the core facing your knife hand. Use a chef's knife at an angle to slice away the core. Repeat with remaining quarters.
- How to cut stone fruit:
    - Cut through the stem end until you hit the pit. Turn the fruit, leaving the knife against the pit, until the entire fruit has been cut except the pit. Try to loosen fruit from the pit. Some will come away easily. For others, you may need to rotate the fruit 90 degrees and repeat the same cutting process so that you end up with quarters. Quarters are easier to pull from the pit. If you still can't free the fruit by hand, cut a quarter away from the pit with a paring knife. You can either then pull the remaining quarters free or cut them away from the pit. Leave as is, chop, or slice as desired.

- How to cut kiwifruit: cut in half (NOT through stem end), then use a teaspoon (the type used for eating) to scoop the fruit out of the peel. Chop or slice as desired. Alternatively, cut off the ends and use a large tablespoon to scoop the fruit out of the peel by inserting the spoon into the fruit directly against the peel and rotating the fruit while pressing the spoon in the opposite direction. Once you have turned the fruit 360 degrees, you will have separated the entire fruit from the peel.
- How to grill fruit (class without oven)—see recipe instructions.
- How to temper chocolate (Professional or Quick Method)—see recipe instructions.
    - Explain that tempering (the Professional Method) leads to faster drying/solidifying time and a superior texture, mouthfeel, and appearance of chocolate once dried, but is time consuming and technically tricky to do. The Quick "Temper" Method gets chocolate ready to dip much faster but takes far longer to dry/solidify. The surface of the dried/solidified chocolate will also be dull with white spots; to prevent this, coat in nuts or cocoa powder. It will still taste good even if not truly tempered.

Key Points for Instructors/Faculty Volunteers to Discuss with Students

- While walking around and assisting students, be sure to mention proper selection of produce and other whole food items used in the session (especially if not covered in previous sessions). You can refer them to the "Food Storage 101" handout for information on storage.
- Explain that while measuring in cooking is somewhat flexible, measuring in baking is not.
    - Remind students of the "Measuring Math" handout posted online. Also mention that baking is a great way to involve kids in the kitchen while also helping them practice math.
- Do not over stir quick breads or lower-sugar/lower-fat cakes because they will be tough and won't rise.
- The simplest healthy dessert is fresh fruit, possibly with the additions of dark chocolate and nuts.
- Refer students to the "How to Make Tasty, Healthy Substitutions in Baking—Banana Bread" handout and recipe to learn more about making healthy substitutions in baking quick breads that don't taste "healthy".

Dinner discussion

- Instructor(s) discuss naturally healthy desserts—examples are the fresh fruit desserts prepared in the session today.
    - The simplest healthy desserts are fresh fruit which can be served with or without dark chocolate and nuts—see the "Dark Chocolate with Fruit and Nuts" recipe—or other healthful toppings or sides, such as the non-dairy yogurt sauce in the "Tropical Fruit Salad with Lime Yogurt Sauce" recipe.
        - Introducing dark chocolate and other foods with bitterness to kids early on helps to prevent their taste buds from becoming accustomed to sweeter options such as milk and white chocolates.
- Rather than focusing entirely on overtly healthy desserts, this session also addressed how to include more decadent treats without risking one's health and waistline using a strategy called the Dessert Flip—having a small piece (bite or two) of a decadent dessert paired with fresh fruit. (See Introduction to the curriculum and introductory blurb for Session 8 for more details).
    - The Dessert Flip is similar to the Protein Flip in that it includes significantly reducing the portion size of a decadent or less healthy item and pairing it with another food that is tasty and healthy. (The Dessert Flip is covered in more detail in the Introduction section.)
    - The overall effect is less sugar, saturated fat, processed grains, and calories with increased fiber, vitamins, and minerals compared with traditional servings of dessert foods.
- This session didn't include any "diet" desserts made with a lot of substitutions to make them look appealing, while tasting nothing like the original. However, details of how to make healthier substitutions in baking that still result in delicious baked goods—such as quick breads—were covered, using Banana Bread as the test case.
- Ask students to reflect on the chocolate taste test. Explain that the % in 65% dark chocolate refers to the cacao content. Most of the remaining 35% is sugar. The higher the cacao content, the lower the sugar content. Therefore, it

is typically healthier to opt for higher cacao content in chocolate but for those aiming for weight loss or maintenance, aim to keep portion sizes to 1 ounce or less as chocolate is still high in calories. Alternatively, cocoa powder is the cacao with the cocoa butter removed and is quite low in calories and high in fiber. Using cocoa powder is a good way to quench a chocolate craving with fewer calories. Cocoa powder is used in the chia pudding and is as richly chocolate as any bar!

- Review/Discuss any of the items from the *Demonstrations and/or Discussions on Baking (Optional)* section, above, that weren't covered in class and that students seem interested in. You won't have time to cover them all. You can opt to send this section as an email to students to read.
- Faculty and/or instructors share clinical correlations/vignettes on how the topics of this session relate to patients they've seen or to clinical care.
    - Note that it's important not to use food, especially desserts, as rewards or threats for kids as doing so can set up an unhealthy relationship with food.
    - Eating fruit in season can help kids and adults better appreciate the natural sweetness of fruit and quench sweet cravings without sugary desserts.
- Students/faculty role play patient-provider interactions to practice counseling a patient on how to make a dish/meal that we prepared in the session including an easy change to make it one of the following: even more affordable, in-season, culturally-appropriate, faster to prepare, or using other ingredients or flavors.
    - Prompt: Choose a patient example from your practice for use in this role play. You might consider counseling someone who has difficulty controlling their intake of added sugars and sweets about healthier ways to satisfy their sweet tooth.

Related Nutrition/Clinical Correlates in the Curriculum:

- Health benefits of Dark Chocolate (Optional References)
- Differential effects on cardiovascular risk factors of different types of saturated fats (Optional References)
- Effects of fruit and vegetable intake on weight (Optional References)
- Tips for shifting away from diets high in meat and added sugars: Protein Flip & Dessert Flip (Introduction)
- Importance of understanding how foods/meals affect blood glucose and food choices (Introduction)
- Added sugars, cardiovascular health, and satiety (Optional References)
- Eating Mindfully, Not Mindlessly (Introduction and Handout)

Optional References:

1. Engler MB, Engler MM, Chen CY, et al. Flavonoid-rich dark chocolate improves endothelial function and increases plasma epicatechin concentrations in healthy adults. *J Am Coll Nutr.* 2004;23(3):197-204. 10.1080/07315724.2004.10719361.
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Session 9

Final potluck/project

Rather than an exam, this final potluck session is meant to be a celebratory capstone experience with dedicated time to reflect on the transformation that has taken place for the students during the CM course. In the short period of time since the start of the course, they have learned an incredible amount about food, cooking, food culture, engaging patients around dietary changes, and made changes to their own diets. Students who have gone through similar courses in the past describe this experience, and the course itself, as having a profound impact on how they think about food and care for themselves and patients.

Goals

1. Create a recipe and write it using standard recipe formatting.
2. Apply at least one lesson learned from the course about preparing healthy food in preparing a dish of the student's choosing.
3. Describe the process of preparing a dish to the group and assess which health or healthy cooking principles learned in the course are illustrated by the dish.
4. Evaluate how lessons learned in the course have influenced person eating habits.
5. Reflect on how the course has prepared students to talk with patients about food and making changes healthy dietary behavior changes.

Objectives

1. Write a recipe that is either predominantly WFPB, or which has been modified to be so, using the provided template.
2. Prepare a tasty, predominantly WFPB dish of their choosing using at least one lesson learned from the course.
3. Plate the dish and place on a buffet table for students and instructors to sample and evaluate.
4. Explain to the group why they chose the recipe that they did and what lesson from the class it represents.
5. Critique whether the dish is appropriate for someone eating a predominantly WFPB diet.
6. Share a meal with the group, celebrate all that the students have learned during the course, and discuss how the experience will impact how they discuss food with patients.

Materials to Review Before Class Session

Required

- Handouts/Weblinks:
    - Recipe Template for Student Final Project
    - Final Potluck Sign-up Sheet

Meal Description/Recipes

To be determined by students. Consider creating a nice menu with each of the items listed for the final potluck.

Prior to the Session:

Prior to this session, students should have:

1. Identified a dish that means something to them (however they define this, most choose something they grew up eating) and is either healthy or one they plan to make healthy changes to based upon what they learned in the course.

2. Signed up on the "Potluck Sign-up Sheet" (See Appendix 1) in an available slot to ensure there is a relatively balanced meal at the final potluck.
3. Written out a recipe for their dish, using the template provided, with enough details that someone else reading and following the recipe could reproduce it. This should have been turned in by the due date provided by the instructors.

Prior to this session, instructors should:

1. Review student recipes for completeness and ask students about any items that are unclear in order to adequately plan final session logistics.
2. Consider compiling recipes and handouts used in the course, along with student recipes, into a PDF cookbook for students as a course graduation gift and reproducible resource for their friends, family, and future patients. Note: this should only be undertaken if one of the instructors (or teaching assistants) has ample time and is good at quickly compiling and editing large documents.
3. Consider creating a nice menu with each of the items listed for the final potluck.
4. Plan final session logistics (see below).

Final Session Logistics:

- Reserve a space—You will need more time to prepare and to hold the session than for those prior—make sure to plan ahead. It takes some extra time to make a shopping list from the student recipes and purchase the ingredients, though instructor time for preparation in the kitchen is roughly the same as other sessions. Students generally need/want to spend 2 ½ to 3 hours at the Session for both cooking and the dinner portion of the event. Make sure to reserve space for the necessary time plus cleanup. It is nice to have a nicer meal setup than normal, potentially with tablecloths, spa water (water infused with fruit), and potentially adult beverages, if appropriate for your students/space/time of day. You might consider reserving a nicer room adjacent or near where the teaching kitchen is for the dinner portion of the event.
- Keep faculty/instructor attendees for this session limited to those that have been engaged with the course prior to this session—don't invite completely new volunteer faculty for this session, if possible. Students share personal details about their lives and are more comfortable without strangers present. However, if you have course donors that make the course possible, this is a good opportunity to show them how important it is and potentially get funding for future classes. You will want to invite donors and thank them during the potluck.
- Decide whether or not instructors will shop for the food items for the final or whether students are expected to bring them. Historically, we opted to do the purchasing and storing of most items to ensure they arrived and were stored properly to prevent foodborne illness. If instructors plan to do the shopping, set aside extra time to compile a grocery list because this session has more recipes than normal. It is recommended that you request students bring any items that cannot be purchased at a typical supermarket and/or choose recipes without special ingredients. If they plan to bring any ingredients that need to be refrigerated, make sure that they review their plan with instructors to keep food stored safely.
- Make sure to review student recipes to ensure that they can be done within the allotted time frame. Tell them to aim for needing no more than 45 minutes for cooking and preparation. They will have 1 hour from the start of class time to complete their dish and get cleaned up. Students generally run over. The dinner portion of the session will take place during the second hour of the session (but often runs over by 30-60 minutes). Try to hold the class at a time when students can stay over time and warn them early on in the course about the longer timing of the final potluck session so they can plan ahead. If this is not possible, you will need to make sure they choose faster, simpler dishes and stick to the allotted time.
- For students that really want to share a dish that cannot be made on-site or cannot be made within 45 minutes, let them bring their dish prepared provided they can do so in a way that is safe (e.g., with adequate refrigeration, etc.).

Class Session Outline

Instructor prepares ahead:

- Reserve a room for dinner celebration (see above).
- Make sure there are serving dishes, or request students bring serving dishes with them.
- Review student recipes, make sure there are sufficient time/ingredients/equipment to complete them or come up with alternatives (time varies)
- Create shopping list from student recipes (1 hour)
- Shop for session (estimated time, 1 hour)
- Print each student's recipe (10 minutes)
- Create class cookbook (Optional, see above)
- Prepare food item(s) and recipe(s) to contribute (optional)(time varies)
- Prepare a space for potluck celebration (after cooking)—have a plan for flatware, dishes, beverages, cups/glasses, table/chairs, tablecloth, corkscrew/bottle opener (if serving adult beverages). (estimated time, 30 minutes)
- Prepare kitchen (30-45 minutes) or set up pop-up kitchen for class session (45-75 minutes)
    - To limit dishes afterward, make available only tools and equipment needed for the session.
    - Either arrange food ingredients divided by recipe so students don't spend time trying to find their ingredients or accidentally take each other's. If using a fully stocked kitchen, place items for each student on separate sheet pans, labeled with their names, on speed racks. Place printed recipe next to ingredients.
    - Set up garbage, compost (if using), and multiple bus tubs to collect dirty dishes in while cooking.

Session:

- No introduction—students go to kitchen, wash hands, and prepare to cook in a sanitary manner (e.g., hair up, dangling jewelry off, aprons on, etc.).
- Student should find their ingredients and recipe and start cooking immediately. They have 1 hour to finish, clean up, and get ready for the potluck portion of the session.
- Students who finish early can help anyone still working. Any student who brings their dish already prepared can come late or help other students.
- Instructors assist students if requested or they seem like they will not finish on time.
- Potluck:
    - After everyone is in the room, students present their dish. Go around the room and have the student tell the group:
        - What is the dish and what does it mean to them?
        - What lessons learned in the course does the dish highlight?
        - What is the most useful thing they learned in the course for their own health?
        - How has the course changed how they think they will talk to patients about food?
    - Once all dishes have been presented, dig in! Enjoy the food and good company while celebrating all that has been learned in the course.

Recipes

Recipes by Class Session: Session 1—Introduction to the Kitchen Basics

With a Spotlight on Latin Flavors

Fruit Salsa

Ingredients:
1 cup (165 g) ¼-inch dice mango
1 cup (165 g) ¼-inch dice pineapple
½ cup (75 g) ¼-inch dice red bell pepper
1 small tomato (120 g), seeded and ¼-inch dice
1 medium jalapeño, seeded and minced*
2 scallions, thinly sliced
¼ cup (60 ml) chopped fresh cilantro, loosely packed
Juice of 1 large lime
Juice of ½ lemon

Instructions:
1. Stir all ingredients together in a small mixing bowl.

Notes:
- Best when left to rest for 1 hour but can be served immediately.
- Last for 3 days in the refrigerator.
- You can substitute other fruit for the pineapple and mango depending on the season. Peaches and nectarines work particularly well.
- For a spicier salsa, don't remove seeds from jalapeño.

Servings: 10

Nutritional Info (per serving): Calories 26, Total Fat 0g, Saturated Fat 0g, Cholesterol 0mg, Sodium 2mg, Total Carbohydrate 6.4g, Dietary Fiber 1.1g, Sugars 4.7g, Protein 0.5g, Vitamin A 3%, Vitamin C 49%, Calcium 1%, Iron 1%

Pico de Gallo

Pico de gallo is also called salsa fresca. It is best the day it is made but will keep in the refrigerator for a couple of days. Make sure to seed the tomatoes before dicing or the salsa will be too watery.

Ingredients:
1 ½ cups seeded, ¼-inch dice tomatoes (about ¾ pound [340 g])
½ cup [75 g] small dice white onion (about 1 small onion)
1 serrano or jalapeño chili, minced (remove seeds or use only ½ a chili for mild salsa)
¼ cup (10 g) finely chopped fresh cilantro leaves
Juice of 1 small lime
Kosher salt, to taste (optional)

Instructions:
1. In a medium-sized mixing bowl, stir together diced tomatoes, white onion, chilies, cilantro, ½ of the lime juice and a pinch of salt.

2. Season to taste with additional lime juice and salt.

Notes:
- Omit the salt if you want to reduce sodium in your diet
- You can substitute diced cucumber for some of the tomato for a different twist on this classic salsa

Servings: 8

Nutritional Info (per serving): Calories 13, Total Fat 0g, Saturated Fat 0g, Cholesterol 0mg, Sodium 50mg, Total Carbohydrate 3g, Dietary Fiber 1g, Sugars 1.6g, Protein 0.5g, Vitamin A 2%, Vitamin C 14%, Calcium 1%, Iron 1%

Guacamole

Ingredients:
1 small garlic clove, minced
Pinch of salt (optional)
2 ripe Haas (or any medium-sized) avocados
¼ small red, yellow, or white onion, finely chopped
½ jalapeño or serrano chili, seeded and minced (for spicy guacamole, do not remove seeds)
¼ tsp (1.5 ml) ground cumin, optional
¼ tsp (1.5 ml) ground coriander, optional
Juice of 1 to 1 ½ large limes
½ medium tomato, small dice
1-2 tbsp (15-30 ml) chopped fresh cilantro
Freshly ground pepper and salt (optional), to taste

Instructions:
1. Use the side of a chef's knife or cleaver to smash the chopped garlic together with a pinch of salt (optional) until it forms a paste. Scrape paste off of cutting board and into a mixing bowl.

2. Pit and peel avocados, saving the pits if you want to prevent browning of the leftover guacamole (see "Notes" section, below). Use a spoon to run along the inside of the avocado skin to remove the edible portion from the skin in one big piece.

3. Dice avocados into ½-inch pieces and add to garlic paste along with onion, chili, cumin, coriander, and the juice of 1 lime. Mash avocados with a fork until you achieve the desired chunkiness. Stir in tomato and cilantro.

4. Season to taste with lime juice, pepper, and salt (optional).

Notes:
- Best served immediately. To prevent browning of any leftover guacamole, keep the avocado pits and place them on top of the guacamole then press a piece of plastic wrap or wax paper directly onto the top of the guacamole, trying not to leave room for air
- Leave the ingredients chunky if you prefer an avocado salsa
- To make this spicier, add more seeds and/or more chili

Servings: 6

Nutritional Info (per serving): Calories 115, Total Fat 9.9g, Saturated Fat 1.4g, Cholesterol 0mg, Sodium 200mg, Total Carbohydrate 7.6g, Dietary Fiber 5g, Sugars 1.1g, Protein 1.6g, Vitamin A 1%, Vitamin C 18%, Calcium 2%, Iron 3%

Latin-style Beans (with Super Quick variation)

Ingredients:
1-2 tbsp (15-30 ml) water (or 1 tbsp [15 ml] oil)
½ large onion, small dice
½ green bell pepper, small dice
2 cloves garlic, minced
1 cup (240 ml) water, vegetable stock, or bean cooking liquid (if using homecooked beans)
2 14.5-oz (400 g) cans black or pinto beans, rinsed and drained (or ½ pound (225 g] dried black or pinto beans, cooked, making sure to reserve 1 cup [240 ml] of the cooking liquid)
½ tsp (2.5 ml) dried Mexican oregano
½ tsp (2.5 ml) ground cumin
Pepper and salt (optional), to taste

Instructions:
1. Heat water or oil in a skillet over medium heat and sauté diced onion, bell pepper, and garlic, stirring frequently, until soft and translucent, avoiding browning. Reduce heat if needed.

2. Add 1 cup water or stock if using canned beans—or reserved cooking liquid if using homecooked beans—along with oregano and cumin. Bring to a simmer, cover, reduce heat to low, and simmer gently for 10 minutes, stirring occasionally to prevent sticking.

3. Season with pepper and salt (optional) to taste.

Super Quick Latin-style Beans variation: Open a 14.5-oz (400 g) can of black or pinto beans and pour contents into a small saucepan (if making on the stove) or into a microwave-safe bowl (if microwaving). Sprinkle with a pinch of garlic powder and 1-2 pinches of ground cumin, heat until warm, making sure to stir frequently. Serve.

Notes:
- This freezes well, so you can make a large batch and portion for later use.
- Keeps in the refrigerator for 5 days.

Servings: 6

Nutritional Info (per serving): Calories 159, Total Fat 2.9g, Saturated Fat 0.3g, Cholesterol 0mg, Sodium 197mg, Total Carbohydrate 25.7g, Dietary Fiber 6.3g, Sugars 1.6g, Protein 8.5g, Vitamin A 0%, Vitamin C 15%, Calcium 6%, Iron 12%

Recipes by Class Session: Session 2—Sauté, Stir-fry, Simmer, Braise

With Spotlights on East Asian and South Asian Flavors

Vegetable Stir-fry with Teriyaki Sauce

This is a great base recipe that can be varied endlessly to suit your taste preferences or whatever veggies you have on hand. If you prep the vegetables and whole grain to serve ahead of time you can have this the table in minutes.

Teriyaki Sauce
¼ cup (60 ml) low-sodium tamari or soy sauce
1 tbsp (15 ml) mirin or rice wine vinegar
2 tbsp (30 ml) sugar or date paste
¾ cup + 2 tbsp (180 ml + 30 ml) water
1 heaping tsp (5 ml or more) chili garlic sauce or 3-4 whole Thai bird chilies, optional (for spicy version)
1 ½ tsp (7.5 ml) cornstarch

Vegetable/Other Ingredients:
1 red bell pepper, thinly sliced
1 small white onion, sauté sliced
¼ head green cabbage, thinly sliced
1 head broccoli, cut into florets (about 1-inch in size)
2 large carrots, julienned
¼ pound (110 g) snap peas, cut on a bias into ½-inch pieces
4 scallions, finely sliced
3 cloves garlic, minced
1 tbsp (15 ml) minced fresh ginger
2 tbsp (30 ml) high-heat cooking oil, such as sesame, grapeseed, peanut, or canola oil, optional*

Instructions:
1. Whisk together tamari/soy sauce, mirin/rice wine vinegar, sugar, chili sauce/chilies (optional) and ¾ cup (180 ml) of water for the teriyaki sauce and set aside.
2. Add cornstarch to a very small dish and add 2 tablespoons (30 ml) of cold water; stir until dissolved and set aside.
3. Prep all vegetables and set near your burner. Heat a wok or large sauté pan over high heat. Working in batches, add some of the oil and a single layer of vegetables to the pan and cook, stirring/tossing frequently, until a bit softened but still crisp to the bite (2-3 minutes per batch). Set aside until all vegetables are cooked.
4. Whisk teriyaki sauce ingredients, making sure to stir in the sugar that had settle on the bottom of the bowl and pour into the empty hot pan; cook stirring until boiling. Stir cornstarch mixture and then stir into sauce mixture in the hot pan. The sauce should bubble and thicken within a few seconds. Remove from heat and toss all cooked vegetables in the pan with the sauce. Serve immediately with whole grain rice.

Notes:
- *No-oil version: if you prefer to omit the oil, then the technique you'll be using is a variation of water sauté. For this method, it is best to use a nonstick skillet and add about twice was much water as you would add if you were using the oil. Instead of adding the water ahead of time as you would with oil, add it after the vegetables. Allow the vegetables to brown slightly in the pan before adding, though if they start to stick or the pan gets too hot, add the water at that point. The steam released when the water hits the hot pan helps to finish cooking the vegetables. Vegetables cooked with this method will not brown as much or develop as much flavor as those cooked with oil but should still be tasty when paired with the sauce.
- This recipe lends itself well to adding protein such as roasted tofu, shrimp, sliced chicken, or other sliced meat. To add, stir-fry protein in a bit of oil until cooked through—about 2-3 minutes; remove from pan, set aside, and proceed with cooking vegetables and other recipe steps as above. Alternatively, you can pre-roast tofu and add near the end of cooking the vegetables.

Vegetable Stir-fry with Teriyaki Sauce (continued)

- This recipe contains about 7-8 cups of chopped/sliced vegetables—you can substitute all or any portion of the vegetables in this recipe with other chopped/sliced vegetables of your choice.

Servings: 6

Nutritional Info (per serving): Calories 147, Total Fat 5.2g, Saturated Fat 0.7g, Cholesterol 0mg, Sodium 722mg, Total Carbohydrate 22.2g, Dietary Fiber 5.8g, Sugars 10.9g, Protein 6g, Vitamin A 31%, Vitamin C 244%, Calcium 10%, Iron 11%

Vegetable Chickpea Curry

This vegetable curry incorporates tomato sauce, instead of the usual diced tomatoes, to add creaminess and reduce the amount of coconut milk needed. This cuts down overall calories and saturated fat without reducing flavor. Don't let the long ingredient list be intimidating—feel free to cut down on the number of vegetables (or use other types) and leave out optional ingredients for a much shorter ingredient list.

Ingredients:

2 tbsp (30 ml) water (or 1 tbsp [15 ml] oil)
½ large onion, medium dice
½ tsp (2.5 ml) salt, optional
1 medium sweet potato, large dice (can substitute yellow or white potatoes)
1 tsp (5 ml) black or brown mustard seeds, optional
1 tsp (5 ml) whole cumin seeds, optional
1 tbsp (15 ml) curry powder (use sweet curry powder for mild, and hot curry powder for spicy)
1 ½ tsp (7.5 ml) brown sugar or date paste
1 ½ tsp (7.5 ml) peeled, minced or grated fresh ginger
2 cloves garlic, minced
Dash of cayenne pepper, optional
2 cups (480 ml) vegetable broth
1 (14.5-oz or 400 g) can chickpeas, drained and rinsed
½ green bell pepper, medium dice
½ red bell pepper, medium dice
½ medium head of cauliflower, cut into bite-sized florets
1 (14.5-oz or 400 g) can low-sodium tomato sauce
½ bag baby spinach (about 5 ounces or 140 g)
½ cup (240 ml) coconut milk (do not use lite or low-fat)
¼ cup (10 g) chopped cilantro, optional
¼ cup (25 g) finely sliced green onions, optional
1 lime, cut into 8 wedges, optional

Instructions:

1. Heat a 6-quart (6 L) stock pot (soup pot) over medium heat, then add water or oil. Add onion and sauté the onion with ½ teaspoon of salt (optional), stirring frequently, for 5 minutes or until it starts to become translucent. Cover pot when not stirring.
2. Add the potatoes and cook for another 2 minutes, stirring frequently.
3. Move the onions and potatoes to the sides of the pan. In a clear area in the middle of the pan, add mustard seeds, cumin seeds, curry powder, brown sugar, ginger, garlic, and cayenne and cook, stirring continuously for 30 seconds or until fragrant.
4. Pour a little (about ¼ cup or 60 ml) broth into the pan and stir to scrape up anything that is stuck to the bottom of the pan and decide if you want to finish the curry on the stovetop or in a slow cooker.
    - **Stove top**: add the rest of the broth, chickpeas, green and red pepper, cauliflower florets, and tomato sauce to the pot. Stir well and bring to a simmer. Then, reduce heat to low (or so stew is gently bubbling) and cover. Cook for 15 minutes, stirring occasionally.
    - **Slow cooker**: add the onion and potato mixture along with the rest of the broth, chickpeas, green and red pepper, cauliflower florets, and tomato sauce to the slow cooker (at least 1 gallon/4-quart [4 L] size). Cover and cook for 4 hours on high or for 8 hours on low.
5. Just before serving, add spinach and coconut milk. Stir until spinach wilts. Taste and adjust seasoning as desired.
6. Serve alone or with brown rice. Garnish with cilantro, green onions, and lime wedges, if desired.

Vegetable Chickpea Curry (continued)

Notes:

- Feel free to swap out any of the vegetables for others that you prefer or based on what is in season.
- To simplify the recipe, you can add extra curry powder and omit the mustard seed, cumin seed, and cayenne.
- This keeps for 5 days in the refrigerator, but also freezes and reheats well

Servings: 6 servings

Nutritional Info (per serving): Calories 233, Total Fat 8.4g, Saturated Fat 4.2g, Cholesterol 0mg, Sodium 370mg, Total Carbohydrate 35g, Dietary Fiber 10.1g, Sugars 13.7g, Protein 9.2g, Vitamin A 46%, Vitamin C 155%, Calcium 11%, Iron 22%

Recipes by Class Session: Session 3—Roasting

Includes New American and Southeast Asian Ingredients and Flavors

Roasted Tofu with Easy Peanut Sauce

To serve as a main dish, make the tofu as described in the recipe. However, I regularly make the roasted tofu alone—without the peanut sauce—but cut it into cubes before cooking. This makes a great add-in for curries or stir-fries.

Ingredients:

Roasted Tofu

1 block (10 to 16 ounces [280 to 450 g]) of extra-firm tofu (do NOT use silken style), drained
1 tbsp (15 ml) olive oil, optional
1 tbsp (15 ml) low-sodium soy sauce or tamari
1 tsp (5 ml) honey or agave
1 clove garlic, minced, optional
1 tbsp (15 ml) arrowroot starch or cornstarch, optional

Easy Peanut Sauce

½ cup (120 ml) unsalted, natural creamy peanut butter
1 ½ (22.5 ml) tbsp low-sodium soy sauce or tamari
2 tbsp (30 ml) brown sugar or date paste
½ lime, juiced
1 tsp (5 ml) chili garlic sauce (can substitute 1/8 teaspoon ground cayenne pepper plus 1 clove minced garlic)
½ tsp (2.5 ml) freshly grated ginger
Approximately 4 tbsp (60 ml) hot water
¼ cup (10 g) chopped cilantro, optional
¼ cup (25 g) thinly sliced scallion, optional

Instructions:

1. The key to making good baked tofu is to press out the excess water. To do this, wrap with a paper towel or clean, absorbent kitchen towel, then set on a plate and put something with at least a couple pounds of weight on top of it (I use a stock pot, large can, or another plate with something on top to weight it down). Let sit for at least 15 minutes, but the longer the better, and then unwrap, drain off excess water, and cut into ½-inch thick slices or 1-inch cubes.
2. While tofu is being pressed, preheat the oven to 400°F (200°C). Prepare a baking sheet with one of the following to prevent sticking: parchment paper, silicone mat, non-stick spray, or wipe with oil.
3. In a shallow baking dish or mixing bowl, whisk together olive oil (optional), soy sauce, honey and garlic. Add tofu and gently turn to coat the tofu on all sides. Use your hands if it starts to break up. Arrowroot or cornstarch makes the tofu extra crisp and helps it to soak up sauce if served in a stir-fry or other saucy dish; if using, sprinkle it over tofu now and turn over a couple of times to make sure the tofu is evenly coated.
4. Place tofu in a single layer on the baking sheet, making sure that no pieces are touching. Bake in the oven for 15 minutes, turn tofu over and bake another 15 minutes or until lightly browned. (If omitting oil, it will not brown as much.)
5. While tofu is baking, whisk together peanut sauce ingredients in a small mixing bowl. Add hot water until the sauce is the thickness that you want. It will still be fairly thick with 4 tablespoons of water added. If you like your sauce thinner, add another 1-2 tablespoon (15-30 ml) of water.
6. Serve tofu with peanut sauce on the side or drizzled over top. Garnish with chopped cilantro and sliced green onions, if desired.

Notes:

- Make this a meal by including steamed veggies and brown rice
- Use the leftover peanut sauce as a dip for fresh vegetables
- To use tofu as an add-in for another dish, follow instructions making sure to cut tofu into cubes rather than slices

Roasted Tofu with Easy Peanut Sauce (continued)

Servings: 4 servings of tofu, 4-6 servings of peanut sauce

Nutritional Info (per serving of Roasted Tofu alone): Calories 183, Total Fat 12g, Saturated Fat 1.7g, Cholesterol 0mg, Sodium 266mg, Total Carbohydrate 6.2g, Dietary Fiber 2.3g, Sugars 1.6g, Protein 16.2g, Vitamin A 0%, Vitamin C 1%, Calcium 68%, Iron 15%

Nutritional Info (per serving of Roasted Tofu with Peanut Sauce): Calories 346, Total Fat 24.4g, Saturated Fat 4.2g, Cholesterol 0mg, Sodium 522mg, Total Carbohydrate 16.5g, Dietary Fiber 3.9g, Sugars 7.7g, Protein 22.1g, Vitamin A 0%, Vitamin C 6%, Calcium 70%, Iron 19%

Smoky Baked Tempeh

Tempeh is a fermented cake made from whole soybeans, so it is higher in protein, fiber and some vitamins than tofu. Tempeh originated in Indonesia and has become a staple of vegetarian cooking. It does have a distinct, earthy taste that is not for everyone. The first step in this recipe—steaming or simmering—softens the tempeh and mellows its earthiness considerably. I suggest adding the steam/simmer step to any tempeh recipe.

Ingredients:
8 ounces (225 g) tempeh
2 tbsp (30 ml) low-sodium tamari or soy sauce
1 tbsp (15 ml) apple cider vinegar
1 tbsp (15 ml) maple syrup or agave
1 tsp (5 ml) olive oil, optional*
½-1 tsp (2.5-5 ml) smoked paprika (½ tsp [2.5 ml] is mild, 1 tsp [5 ml] is spicier and smokier)

Instructions:
1. Slice tempeh into ¼" (6 mm) thick strips and steam (or simmer gently in shallow water in a sauté pan) for 3 minutes; drain and pat with a towel to remove excess water.
2. In an 8 x 8-inch (20 x 20-cm) baking dish, stir together remaining ingredients. Add tempeh and turn over so that all sides are coated in the marinade.
3. Now you have two options for finishing the tempeh:
    a. Let tempeh sit in marinade overnight for maximum flavor, then fry in a nonstick pan with a small amount of oil until edges crisp and brown.
    b. Alternatively, you can bake immediately in the baking dish at 350°F (175°C) for 20-30 minutes, flipping halfway through, cooking until the edges brown. To prevent sticking to the pan, you may want to transfer marinated tempeh strips to a small sheet pan lined with parchment paper or a silicone mat.

Notes:
- *If omitting oil, use the baking method (b) to finish cooking.
- Serve as a substitute for bacon—A little goes a long way. However, don't expect it to taste like bacon—enjoy it as its own thing.
- This makes a delicious sandwich served on sprouted grain bread with hummus and something crisp—like romaine lettuce or pea shoots.

Servings: 4

Nutritional Info (per serving): Calories 140, Total Fat 7.3g, Saturated Fat 1.4g, Cholesterol 0mg, Sodium 509mg, Total Carbohydrate 9.5g, Dietary Fiber 0.3g, Sugars 3.3g, Protein 11.5g, Vitamin A 2%, Vitamin C 72%, Calcium 2%, Iron 4%

Roasted Cauliflower with Cumin and Coriander

Ingredients:
Small head cauliflower (about 1 pound or 450 g), cut into bite-sized florets
1 ½ tbsp (22.5 ml) olive oil, optional (can substitute 1 tbsp water or broth)*
1 tsp (5 ml) cumin seeds
½ tsp (2.5 ml) ground coriander
Salt, to taste

Instructions:
1. Preheat oven to 425°F (220°C) (400°F [200°C] if using a convection oven).
2. In a roasting pan, toss cauliflower with oil (or water/broth), cumin, coriander, and salt. Place pan uncovered into oven and roast 15 minutes, turn cauliflower, roast another 5-15 minutes until edges of cauliflower are browned and the stem ends of the florets only give a little resistance when pierced with a fork.
3. Salt to taste and serve.

Notes:
- Serve as a side dish. This goes particularly well with Latin, Mediterranean, Indian and Middle Eastern dishes. Garnish with cilantro and green onions, if desired.
- Add a bit of cayenne pepper to spice it up before roasting.
- Squeeze lemon over the cauliflower when you remove it from to oven to give it a fresh, lemony flavor.
- *If omitting oil, you may want to roast on a sheet pan lined with parchment paper or a silicone mat to prevent sticking and increase the temperature to 450°F (230°C) to increase the chance of some browning for flavor development.

Servings: 6

Nutritional Info (per serving): Calories 54, Total Fat 3.7g, Saturated Fat 0.6g, Cholesterol 0mg, Sodium 124mg, Total Carbohydrate 4.7g, Dietary Fiber 1.9g, Sugars 1.7g, Protein 1.8g, Vitamin A 0%, Vitamin C 72%, Calcium 2%, Iron 4%

Roasted Squash and Root Vegetables

This root vegetables given in the recipe are only a suggestion—use whatever looks good at the market!

Ingredients:
3 carrots, peeled, cut into large dice or 1-inch chunks (roll-cut works well)
1 butternut squash, peeled, seeded, cut into large dice (can use pre-cut squash)
2 parsnips, peeled, cut into large dice (or 6 small red potatoes, halved or quartered)
1 red onion, large dice
1 tbsp (15 ml) olive oil, optional*
2 sprigs rosemary
¼ tsp (1.25 ml) kosher salt, or to taste
Freshly ground black pepper, to taste

Instructions:
1. Preheat oven to 425°F (220°C).
2. Place all vegetables in a large mixing bowl and toss with olive oil, rosemary, salt and pepper.
3. Place in middle of oven and roast until fork-tender, about 45 minutes.

Notes:
- Make sure all vegetables are cut roughly the same size to ensure even cooking.
- *For those that want to omit oil, substitute ½ tbsp water or broth to help the herbs and seasonings stick. Make sure to roast on a silicone mat or piece of parchment paper to prevent sticking. Vegetables roasted without oil will not develop the same type of crisped, brown edges as those cooked with oil. By the time vegetables cooked without oil begin to brown, they are also drying out and should be tested to check for doneness and texture.

Servings: 6

Nutritional Info (per serving): Calories 114, Total Fat 2.7g, Saturated Fat 0.4g, Cholesterol 0mg, Sodium 109.6mg, Total Carbohydrate 22.9g, Dietary Fiber 5.3g, Sugars 6.3g, Protein 1.9g, Vitamin A 78%, Vitamin C 48%, Calcium 8%, Iron 6%

Recipes by Class Session: Session 4—Soups & Salads

Includes New American, Mediterranean, & North African Ingredients and Flavors

Vinaigrettes

Vinaigrettes are very simple to make and are cheaper and taste better than the salad dressings and marinades you can buy in the store. They can be used for salads, vegetables dips, and marinades. If you plan to make no-oil and low-oil dressings at home, it is useful to first learn the principles of making a vinaigrette.

Basic Vinaigrette

Basic vinaigrette is made by whisking a slow stream of oil into an acidic ingredient (or just add ingredients to a jar and shake), tasting and adjusting for acidity, and seasoning with a small amount of salt and pepper. You can add flavor by using herbs, other seasonings, and condiments.

Ingredients:	*Ingredients (1/2 recipe):*
¼ cup (60 ml) vinegar or unsweetened fruit juice	2 tbsp (30 ml)
½ to ¾ cup (120 to 180 ml) oil, adjust to taste	4 to 6 tbsp (60 to 90 ml), adjust to taste
Other flavoring ingredients, optional*	Other flavoring ingredients, optional*
A couple pinches of salt and pepper	A couple pinches of salt and pepper

Instructions:

1. Measure vinegar, lowest amount of oil listed, and any other ingredients to be included in the vinaigrette into a jar (make sure you have a fitted lid) or bowl and shake or whisk until combined.
2. Taste the vinaigrette. You want it to be a little sour or it won't taste right when you put it on food. If it is too sour, add another tablespoon or two (15 to 30 ml) of oil, repeating as needed until flavor is balanced. If it's not sour enough, add another tablespoon of vinegar.

Notes:

- Store covered in the refrigerator. If you make this with vinegar and oil only, it will keep for months. If fresh ingredients are used, such as fruit juice, garlic or herbs, the dressing should be used within 7 days.
- The oil may solidify in the refrigerator because of the cool temperature—the dressing is still good. Just remove the dressing from the refrigerator a few minutes before using or run some warm water over the outside of the jar to melt the oil.
- Use the Vinaigrette Variations Chart that follows to get ideas about how to make other types and flavors of vinaigrettes.

Servings (full recipe): 16 servings (1 cup [240 ml] total)

Nutritional Info (per serving): Calories 90, Total Fat 10g, Saturated Fat 1.4g, Cholesterol 0mg, Sodium 38mg, Total Carbohydrate 0g, Dietary Fiber 0g, Sugars 0g, Protein 0g, Vitamin A 0%, Vitamin C 0%, Calcium 0%, Iron 0%

Vinaigrette Variations Chart

Main Oils	**Vinegars/Acidic Ingredients**	**Herbs/Spices/Other**
Olive Oil, any style	Rice Vinegar	Garlic, ground dried or minced/grated fresh
Canola Oil	Apple Cider Vinegar	Ginger, ground dried or grated fresh
Vegetable Oil	Balsamic Vinegar, white or dark	Fresh herbs, chopped
Safflower Oil	Red Wine Vinegar	Dried herbs, chopped or ground
Sunflower Oil	White Wine Vinegar	Nuts, roasted, raw, or nut butters
Sesame, untoasted	Lemon, Lime or other Citrus juice	Seeds, whole or ground
Flaxseed Oil	White Vinegar	Citrus zest (lemon, lime, orange, grapefruit)
Grapeseed Oil	Champagne Vinegar	Curry, ground powder, any style
	Sherry Vinegar	Paprika/Other ground peppers
		Cumin, dried ground or dried whole that is toasted then ground
		Coriander, dried ground or dried whole that is toasted then ground
		Clove, ground dried
		Cinnamon, ground dried or grated stick
		Nutmeg, ground dried or grated from whole
		Dijon Mustard, Other Mustard
		5-Spice, Herbes de Provence or any other ground seasoning mixture of your choice
		Honey, brown sugar, dates, other flavored sweeteners
Flavoring Oils*	**Emulsifying ingredients****	
Walnut Oil	Dijon Mustard, Other Mustard	
Hazelnut Oil	Liquid sweetener (e.g., agave, honey, maple syrup, date paste)	
Other Nut Oil		
Toasted Sesame Oil		

This is not an exhaustive list – your imagination is the limit!

***Flavoring oils** are oils that are strongly flavored and used in small quantities for flavoring. They are never the main oil in a vinaigrette, though may be the only oil used to make very low-oil dressings.

****Emulsifying ingredients** are those that help to temporarily bind together oil and water-based ingredients that would otherwise separate quickly.

Balsamic Vinaigrette 3 Ways: Converting a traditional vinaigrette to low-oil and no-oil dressings

Using balsamic vinaigrette as an example, the recipes that follow demonstrate a classical, French-style vinaigrette, a low-oil alternative, and finally, a no-oil option. Try each to compare and contrast flavors, textures, and culinary uses. Note that for low-oil and no-oil dressings, more ingredients are generally needed to balance flavors. The no-oil option uses silken tofu to add body as no-oil dressings made by simply substituting water, stock, or fruit juice for the oil tend to be thin and run off whatever they are being used to dress. Adding ingredients that thicken no-oil dressings, as well as stronger seasonings/flavoring ingredients, are key to ending up with a pleasing mouthfeel and flavor profile in the end product. Fresh herbs such as basil, parsley, thyme, rosemary, or sage would be delicious in any of the dressings.

Traditional Balsamic Vinaigrette

1 small clove garlic, minced
¼ cup (60 ml) balsamic vinegar
¾ cup (180 ml) olive oil
1 tsp (5 ml) agave syrup or Dijon mustard, optional, to emulsify
Salt and pepper, to taste

- Add ingredients to jar with a fitted lid and shake vigorously or whisk together in a small mixing bowl. Season to taste.

Low-oil Balsamic Vinaigrette

1 small clove garlic, minced
1 tsp (5 ml) white or light miso
1 tsp (5 ml) agave syrup or Dijon mustard, optional, to emulsify
¼ cup (60 ml) balsamic vinegar
¼ cup (60 ml) olive oil
¼ to ½ cup (60 to 120 ml) water, adjust to taste
Freshly ground black pepper, to taste

- Add ingredients to a blender and blend until smooth. Alternatively, whisk in a mixing bowl until smooth—this works best if you first whisk garlic, miso, agave and/or Dijon, and vinegar together until smooth and then whisk in the remaining ingredients. Season to taste.

Creamy Balsamic Dressing (no-oil)

1 small clove garlic, minced
¼ cup (60 ml) balsamic vinegar
1 ½ tsp (7.5 ml) white or light miso
¼ cup (60 ml) water, or more to adjust taste, consistency
¼ cup (60 ml) mashed silken tofu
1 small date or 1 tsp (5 ml) liquid sweetener, optional, if needed to adjust sweetness (a must for cheaper, younger balsamic vinegars; unnecessary for higher quality and aged varieties)
½ tsp (2.5 ml) Dijon mustard, optional
Freshly ground black pepper, to taste

- Add ingredients to a blender and blend until smooth. Season to taste.

No-oil & Low-oil Dressing Options for Salads and More

Unless otherwise stated in the instructions, these recipes need to be blended together—ideally in a high-powered blender—until smooth and well-combined for the best results.

Berry Balsamic Dressing (no-oil)

¼ cup (60 ml) fresh or frozen raspberries (can sub other berries or cherries)
2 to 3 tsp (10 to 15 ml) Dijon mustard, adjust to taste
1 clove garlic, peeled
½ to 2/3 (120 to 160 ml) cup balsamic vinegar, adjust to taste
1 tbsp (15 ml) honey, maple syrup or agave syrup (can sub 2 pitted dates), or to taste
1/8 tsp (0.6 ml) freshly ground black pepper
¼ tsp (1.25 ml) salt, or more to taste

Lemon Tahini Dressing (no-oil)

¼ cup (60 ml) tahini (roasted, if possible)
1 tbsp (15 ml) maple syrup
Juice of 1 large lemon (about 3 tbsp [45 ml] juice)
½ tsp (2.5 ml) salt
½ tsp (2.5 ml) garlic powder (or 1 clove garlic, grated)
$^1/_8$ tsp (0.6 ml) cayenne pepper
3 tbsp (45 ml) water to thin, as needed

- Blend, whisk or shake all ingredients together. I like to make this in a 1-cup (240 ml) canning jar with a lid that can double as a storage container and allows easy shaking for later use if the dressing has separated.

Easy Peanut Sauce/Dressing (no-oil)

½ cup (120 ml) unsalted, natural creamy peanut butter
1 ½ tbsp (22.5 ml) low-sodium soy sauce or tamari
2 tbsp (30 ml) packed brown sugar (or date paste)
Juice of ½ lime, or to taste
1 tsp (5 ml) chili garlic sauce (can substitute 1/8 tsp ground cayenne pepper plus 1 clove minced garlic)
½ tsp (2.5 ml) freshly grated ginger
Approximately 4-6 tbsp (60-90 ml) hot water
¼ cup (10 g) finely chopped cilantro, optional
¼ cup (25 g) finely chopped scallions, optional

- Whisk together peanut butter, soy sauce, brown sugar or date paste, lime juice, chili garlic sauce and ginger; thin with hot water to desired consistency. You can either stir cilantro and scallions into the sauce or set aside and use them for garni.

Creamy Pesto Dressing (no-oil)

3 cloves garlic, roughly chopped
½ cup (120 ml) mashed silken tofu
2-3 tbsp (30-45 ml) lemon juice, adjust to taste
2 tbsp (30 ml) raw cashew butter
½ cup (120 ml or about 15 g) packed fresh parsley, tough stems removed*
3 cups (720 ml or about 90 g) packed fresh basil leaves*
¼ cup (30 to 40 g) toasted pine nuts or walnuts
1/3 cup (25 g) nutritional yeast
A couple dashes mild curry powder, optional
¼ tsp (1.25 ml) salt, or to taste (may need up to ½ tsp [2.5 ml])
Water to thin, if needed

- Place all ingredients into a blender or food processor and blend/process until well-combined. Season to taste with salt and lemon juice. Thin with water to desired consistency.
- *if omitting parsley, use 3 ½ cups (840 ml or about 100 g) basil.

Creamy Italian Dressing (no-oil)

¾ cup (180 ml or about 110 g) raw cashews, soaked for 15 minutes in very hot water (or 4+ hours in room temp water), then drained
½-¾ cup (120-180 ml) warm water (start with ½ cup, use remaining water to adjust consistency to taste)
3 tbsp (45 ml) red wine vinegar
1 tbsp (15 ml) fresh lemon juice
1-2 tsp (5-10 ml) honey, maple syrup or agave syrup (can sub 1 small pitted date), or to taste
1 tsp (5 ml) Dijon mustard
½ tsp (2.5 ml) garlic powder
¼ tsp (1.25 ml) paprika
1 tbsp (15 ml) Italian seasoning
½ tsp (2.5 ml) salt
¼ tsp (2.5 ml) freshly ground black pepper

- When thoroughly blended, rub a bit of dressing between two fingers; if gritty, continue blending until no grit remains. This recipe is best if allowed to sit at least 1 hour before serving.

Carrot Ginger Dressing (no-oil)

4 medium carrots, peeled and diced
½ cup (120 ml) freshly squeezed orange juice
½ cup (120 ml) water
3 tbsp (45 ml) grated ginger
3 tbsp (45 ml) tahini
1-2 tbsp (15-30 ml) low-sodium soy sauce, to taste
1 tbsp (15 ml) rice vinegar
1 large clove garlic, peeled

Cashew Ranch Dressing (low-oil)

1 ¼ cups (300 ml or about 180 g) raw cashews, soaked for 15 minutes in very hot water (or 4+ hours in room temp water), then drained
¾ cup (180 ml) water
3 tbsp (45 ml) lemon juice
2 tbsp (30 ml) apple cider vinegar
1/3 cup (80 ml) extra virgin olive oil (can use water, but it won't be as flavorful or as convincing a substitute)
3 tbsp (45 ml) agave syrup
2 cloves garlic
1 tbsp (15 ml) onion powder
1 tsp (5 ml) dried dill
½ tsp (2.5 ml) kosher salt, or to taste

- When thoroughly blended, rub a bit of dressing between two fingers; if gritty, continue blending until no grit remains. This recipe is best if allowed to sit at least 1 hour before serving.

Soy Sesame Ginger Dressing (low-oil)

1 clove garlic, minced
2 tsp (10 ml) grated ginger
¼ cup (60 ml) unseasoned rice vinegar
¼ cup (60 ml) low-sodium soy sauce or tamari
2 tbsp (30 ml) toasted sesame oil
¼ cup (60 ml) untoasted/regular sesame oil or olive oil
1 tbsp (15 ml) agave syrup

- No need to blend—can be made by shaking ingredients together in a jar or whisking together in a bowl like a traditional vinaigrette.

Soy Lemon Vinaigrette (low-oil)

3 tbsp (45 ml) freshly squeezed lemon juice (approximately 1 large lemon)
1 tbsp (15 ml) sesame oil
1 tbsp (15 ml) low-sodium soy sauce
Freshly ground black pepper, to taste

- No need to blend—can be made by shaking ingredients together in a jar or whisking together in a bowl like a traditional vinaigrette.

Butternut Squash & Apple Soup

During cold and rainy seasons, soup is just the thing to warm you up. This soup is hearty and full of fiber, vitamin A, quercetin (a flavonoid with many health benefits found in apples), and spice mixes that contain many compounds thought to have anti-cancer and anti-inflammatory properties. Blending the ingredients also give you a creamy soup without all the saturated fat and cholesterol found in similar cream-based soups. Using water instead of stock helps cut sodium and makes it a good choice for those with high blood pressure.

Ingredients:
¼ cup (60 ml) water or stock (or 2 tbsp [30 ml] olive oil)
½ large butternut squash, peeled, and cut large dice
1 small (or ½ large) sweet potato, peeled, and cut large dice
1 small onion, cut large dice
2-3 cups (480-720 ml) water or low-sodium vegetable stock
1 small green apple, cored (but skin left on), cut large dice
1 tsp (5 ml) sweet curry powder
1 tsp (5 ml) ras el hanout, garam masala, or another 1 tsp curry powder
Pinch of cayenne pepper
1 ½ tsp (7.5 ml) agave syrup or honey
Juice of ¼ lemon
Fresh ground black pepper, to taste
Salt, to taste (optional)

Instructions:
1. Heat a 4-quart (4 L) stockpot over medium heat, then add ¼ cup (60 ml) water or stock (or 2 tbsp [30 ml] olive oil). Add squash, sweet potato and onion, stir. Then add ½ cup (120 ml) of water or stock. Cook, stirring frequently, until onion is translucent, about 5 minutes.
2. Add the apple. Cook, stirring frequently, for 2-3 minutes.
3. Add curry powder, ras el hanout/garam masala/curry powder, and cayenne, and a couple pinches of salt (only add salt at this stage if you're using water instead of the stock because the stock already has salt). Stir over the heat for about 1-2 minutes, or until the spices are fragrant.
4. Add remaining water or stock. Water or stock should almost cover the vegetables. Bring to a boil, then reduce heat to a simmer and cook uncovered for 20-30 minutes or until the vegetables are soft when stabbed with a fork.
5. Remove the pot from the stove, and blend. You can do this any of the following ways—puree with an immersion blender, blend in batches in a blender or food processor until smooth. Alternatively, if you don't have any of these appliances, mash with a potato masher.
6. Season with honey/agave, lemon juice, black pepper, and salt.
7. Serve right away, or chill and serve later. Can be frozen for reheating at another time.

Notes:
- Store in an airtight container in the refrigerator for up to a week or separate into desired serving size containers and freeze. Reheat in the microwave or on the stovetop.
- Great served with a crisp green salad dressed with vinaigrette or another green vegetable to add contrast in color and texture.

Servings: 4 bowls or 8 cups

Nutritional Info (per cup [240 ml]): Calories 82, Total Fat 3.6g, Saturated Fat 0.5g, Cholesterol 0mg, Sodium 230mg, Total Carbohydrate 12.6g, Dietary Fiber 2.4g, Sugars 4.5g, Protein 1g, Vitamin A 36%, Vitamin C 19%, Calcium 4%, Iron 3%

Nutritional Info (per bowl [480 ml]): Calories 163, Total Fat 7.1g, Saturated Fat 1g, Cholesterol 0mg, Sodium 461mg, Total Carbohydrate 25.2g, Dietary Fiber 4.7g, Sugars 9g, Protein 2g, Vitamin A 71%, Vitamin C 38%, Calcium 8%, Iron 6%

Veggie Chili with Beans

Ingredients:
2 tbsp (30 ml) broth, water, or olive oil
1 medium yellow onion, large dice
1 green bell pepper, large dice
2-3 cloves of garlic, minced
1 pound (450 g) butternut squash or sweet potatoes, large dice
4 ounces (110 g) cremini or white button mushrooms, large dice
Pepper and salt (optional), to taste
2 tbsp (30 ml) chili powder
1 tsp (5 ml) ground cumin
1 (14.5 ounce or 400 g) can low-sodium tomato puree
1 (14.5 ounce or 400 g) can low-sodium diced tomatoes
2 (14.5 ounce or 400 g) cans cooked kidney beans, drained and rinsed (can use 3 cups cooked beans)
1 (14.5 ounce or 400 g) can small red beans, drained and rinsed (can use 1 ½ cups cooked beans)
½ to 1 cup (120 to 240 ml) water
1 avocado, diced, optional (garnish)
¼ cup (10 g) chopped cilantro, optional (garnish)

Instructions:
1. Heat a 4- to 6-quart (4- to 6-liter) pot over medium-high heat, then add broth, water, or olive oil. Add onions, peppers and garlic, cook covered, stirring regularly for 3 minutes.
2. Add squash and mushrooms and season with a couple pinches of salt (if using) and freshly ground black pepper. Cover pot and cook, stirring regularly, for 5 minutes.
3. Add chili powder and cumin. Stir to coat vegetables. Add both cans of tomatoes, all of the beans and enough water to make the chili the thickness you like.
4. Stirring frequently, bring chili to a simmer over medium heat. Then, reduce heat to medium-low and simmer for 20-30 minutes or until squash is tender. Season to taste with pepper and salt (optional).
5. Garnish with cubes of avocado and chopped cilantro, if desired.

Notes:
- Serve chili right away or prepare in advance. It tastes better the next day and keeps in the refrigerator for a week. Can be frozen for 6+ months.
- Portion into individual serving containers that are microwavable for a quick lunch, or into family-sized containers for a heat-and-eat dinner.
- Makes 3 quarts (3 liters)

Servings: 12 cups

Nutritional Info (per cup [240 ml]): Calories 324, Total Fat 5.7g, Saturated Fat 0.8g, Cholesterol 0mg, Sodium 108mg, Total Carbohydrate 54.1g, Dietary Fiber 21.2g, Sugars 5.9g, Protein 18.4g, Vitamin A 27%, Vitamin C 49%, Calcium 15%, Iron 40%

Simple Kale Salad

Kale salad is the trend that's not going away—and for good reason! Unlike lettuces, dark, leafy greens, like kale, can be dressed and still hold up for days in the refrigerator without wilting. This makes kale salad the perfect way to get some veggies into the diet for a busy student or family on-the-go! This recipe has the bare minimum ingredients—add whichever additions you like to make it more exciting.

Ingredients:
1 head curly or Lacinato kale, washed and spun dry, ribs removed
Juice of 1 large lemon (about ¼ cup [60 ml])
2 tbsp (30 ml) extra-virgin olive oil, optional*
¼ tsp (2.5 ml) salt, or to taste
Freshly ground black pepper, to taste

Instructions:
1. Tear kale up into bite-sized pieces and put into a large bowl (or shred if you'd like a slaw-style salad).
2. Pour lemon juice and 2 tbsp olive oil (if using) over kale and sprinkle with salt and pepper. Massage kale vigorously with your hands to work in the seasoning ingredients.
3. Season to taste with more salt and pepper.

Notes:
- If you want to add another dressing, follow the recipe above, omitting the olive oil. After massaging kale with only the lemon juice, salt and pepper, you can add any dressing you wish.
- *To omit oil: consider adding an oil-free dressing and following the method described immediately above.
- This salad will keep, dressed, for up to 4 days in the refrigerator.
- Add any toppings of your choice
- Time-saving tip: buy kale already chopped.

Servings: 4-6

Nutritional Info (per serving): Calories 75, Total Fat 7.3g, Saturated Fat 1g, Cholesterol 0mg, Sodium 155mg, Total Carbohydrate 3.2g, Dietary Fiber 0.9g, Sugars 0.9g, Protein 1.1g, Vitamin A 8%, Vitamin C 58%, Calcium 4%, Iron 2%

Homemade Vegetable Stock—From Scraps or Recipe

We are not making this in class since many people don't make their own stock/broth. However, this is a great recipe to have on hand *for anyone trying to eat a low-sodium diet*.

Making stock is also an *excellent way to reduce food waste*. You *don't need to follow a specific recipe*. Instead keep a container of veggie scraps in the freezer and when you have 1-2 quarts (1-2 liters) of scraps, add them to a stockpot, fill with water *just* above the level of the top of the veggies, add a few peppercorns and a bay leaf, and simmer for 45 minutes before straining. That's it!

Do not to include the following items in stock because they will give it an "off" flavor or make it very cloudy: broccoli, cauliflower, cabbage, starchy vegetables, Brussels sprouts, beets, artichokes, asparagus, turnips, rutabagas or corn.

In case you want *a tried-and-true recipe for vegetable stock*, here you go!

Ingredients:

Vegetable Ingredients

1 medium onion, quartered (no need to remove the skin)
1 large carrot, chopped roughly into 1-inch pieces
The leafy end of a bunch of celery (approximately the top 1/4 of the bunch), roughly chopped
Greens of 3 leeks, washed well (the white parts are used in most recipes, use them for something fancier than stock)
3 cloves garlic, smashed (no need to remove the peel)
¾-1 ounce (22.5-30 g) mixed dried mushrooms or 3-4 ounces (90-120 g) shiitake mushroom stems (the inedible parts of the mushroom) or other fresh mushroom scraps
1 (4-inch [10-cm]) piece of kombu or kelp, optional (gives body to the stock)

Aromatic Ingredients

3 bay leaves
6 sprigs thyme
1 small handful of parsley stems (or 6 springs of parsley)
1-1/2 tsp (7.5 ml) black peppercorns
1 tsp (5 ml) whole fennel seeds or greens from 1 small bulb of fennel (aka. anise)
1 tsp (5 ml) whole coriander seeds

Instructions:

1. Put all ingredients in a large stock pot (at least 6-quart size). Add water to cover by 1 to 1 ½ inches (2.5 to 4 cm).
2. Over high heat, bring to a boil. Turn heat down until stock is at barely a simmer and cooking for 45 minutes.
3. Strain out vegetables and either use stock immediately or portion into containers and freeze for later use (see notes).

Notes:

- Pros of homemade stock (versus store-bought): nearly sodium-free, *much* better flavor, less food waste, can be made nearly for free!
- Cons of homemade stock: time, planning, freezer space for storage.
- Store any stock that you won't use within 5 days in the freezer. I like to do this in ice cubes or 1-cup (240 ml) servings so that I only thaw what I need.
- Ice cubes of stock can also be thrown into any recipe without thawing. One ice cube equals about 1 ounce.

Makes: 3+ quarts (3 or more liters)

Nutritional Info (per cup [240 ml]): Calories 10, Total Fat 0g, Saturated Fat 0g, Cholesterol 0mg, Sodium 7mg, Total Carbohydrate 1g, Dietary Fiber 0g, Sugars 0g, Protein 0g, Vitamin A 3%, Vitamin C 3%, Calcium 1%, Iron 1%

Recipes by Class Session: Session 5—Beans & Whole Grains: Building Healthy Bowls

With Spotlights on Whole Grains and Beans

Includes New American, Mediterranean, & North African Ingredients and Flavors

Building Healthy Bowls

Steps:

1) **Pick a whole grain**
2) **Pick a bean**
    a. Can be plain, cooked beans, seasoned beans, or beans turned into a dip (e.g., like hummus). Alternatively, try the "Create Your Own Veggie Burgers and Patties" recipe.
3) **Pick produce toppings**
    a. Think about raw, roasted, steamed, or sautéed veggies and fresh or dried fruit.
4) **Pick a sauce or dressing (see below)**
    a. Remember that if you choose a fat-free dressing option, add nuts, seeds, avocado, or olives to make sure you absorb the fat-soluble vitamins in the dish.
5) **Optional—add other flavoring ingredients.**
    a. These could include fresh or dried herbs and spices, nuts, seeds, dried fruit, etc.
6) **Assemble attractively in a bowl and enjoy!**

Sauces & Dressings

The following are sauces/dressings using flavor profiles from around the world that can be used to pull together simple, healthy, but delicious bean and whole grain bowls. However, any dressing from the "Vinaigrettes, Lower-oil, and No-oil Dressings" handout would work beautifully for a bowl.

Creamy Balsamic Dressing (no-oil)

1 small clove garlic, minced
¼ cup (60 ml) balsamic vinegar
1 ½ tsp (7.5 ml) white or light miso
¼ cup (60 ml) water, or more to adjust taste, consistency
¼ cup (60 ml) mashed silken tofu
1 small date or 1 tsp (5 ml) liquid sweetener, optional, if needed to adjust sweetness (a must for cheaper, younger balsamic vinegars; unnecessary for higher quality and aged varieties)
½ tsp (2.5 ml) Dijon mustard, optional
Freshly ground black pepper, to taste

- Add ingredients to a blender and blend until smooth. Season to taste.

Lemon Tahini Dressing (no-oil)

¼ cup (60 ml) tahini (roasted, if possible)
1 tbsp (15 ml) maple syrup
Juice of 1 large lemon (about 3 tbsp [45 ml] juice)
½ tsp (2.5 ml) salt
½ tsp (2.5 ml) garlic powder (or 1 clove garlic, grated)
$^1/_8$ tsp (0.6 ml) cayenne pepper
3 tbsp (45 ml) water to thin, as needed

- Blend, whisk or shake all ingredients together. I like to make this in a 1-cup (240 ml) canning jar with a lid that can double as a storage container and allows easy shaking for later use if the dressing has separated.

Easy Peanut Sauce/Dressing (no-oil)

½ cup (120 ml) unsalted, natural creamy peanut butter
1 ½ tbsp (22.5 ml) low-sodium soy sauce or tamari
2 tbsp (30 ml) packed brown sugar (or date paste)
Juice of ½ lime, or to taste
1 tsp (5 ml) chili garlic sauce (can substitute 1/8 tsp ground cayenne pepper plus 1 clove minced garlic)
½ tsp (2.5 ml) freshly grated ginger
Approximately 4-6 tbsp (60-90 ml) hot water
¼ cup (10 g) finely chopped cilantro, optional
¼ cup (25 g) finely chopped scallions, optional

- Whisk together peanut butter, soy sauce, brown sugar or date paste, lime juice, chili garlic sauce and ginger; thin with hot water to desired consistency. You can either stir cilantro and scallions into the sauce or set aside and use them for garni.

Creamy Pesto Dressing (no-oil)

3 cloves garlic, roughly chopped
½ cup (120 ml) mashed silken tofu
2-3 tbsp (30-45 ml) lemon juice, adjust to taste
2 tbsp (30 ml) raw cashew butter
½ cup (120 ml or about 15 g) packed fresh parsley, tough stems removed*
3 cups (720 ml or about 90 g) packed fresh basil leaves*
¼ cup (30 to 40 g) toasted pine nuts or walnuts
1/3 cup (25 g) nutritional yeast
A couple dashes mild curry powder, optional
¼ tsp (1.25 ml) salt, or to taste (may need up to ½ tsp [2.5 ml])
Water to thin, if needed

- Place all ingredients into a blender or food processor and blend/process until well-combined. Season to taste with salt and lemon juice. Thin with water to desired consistency.
- *if omitting parsley, use 3 ½ cups (840 ml or about 100 g) basil.

Soy Sesame Ginger Dressing (low-oil)

1 clove garlic, minced
2 tsp (10 ml) grated ginger
¼ cup (60 ml) unseasoned rice vinegar
¼ cup (60 ml) low-sodium soy sauce or tamari
2 tbsp (30 ml) toasted sesame oil
¼ cup (60 ml) untoasted/regular sesame oil or olive oil
1 tbsp (15 ml) agave syrup

- No need to blend—can be made by shaking ingredients together in a jar or whisking together in a bowl like a traditional vinaigrette.

Hummus & Bean Dips

This recipe is an all-purpose template and can be followed to create nearly any type of bean dip you can imagine.

Ingredients:
½ cup (120 ml) tahini or other nut or seed butter*
2 small cloves garlic, roughly chopped
2 tbsp (30 ml) freshly squeezed lemon juice or other acidic ingredient (e.g., vinegar, tomato juice, other citrus juice), adjust to taste
3 tbsp (45 ml) olive or canola oil, optional
1 ½ cups (400 g) cooked garbanzos (aka. chickpeas) or other beans**
½-1 tsp (2.5-5 ml) seasonings, optional (not required for hummus, but consider spice mixes or other seasonings if making other types of bean dips)
2-4 tbsp (30-60 ml) liquid, or more to thin (for hummus, use water or bean cooking liquid; for other bean dips substitute with other sauces, such as salsa, if you wish)
½-¾ tsp (2.5-3.75 ml) salt, or to taste (optional)

Instructions:
*For making non-hummus beans dips, like a spicy black bean dip, you could substitute avocado, salsa, or a mixture of the two for the tahini or nut butter.
** If using chickpeas, the creamiest, smoothest hummus is achieved by peeling the chickpeas before using. However, if you don't mind hummus that isn't perfectly smooth, you can skip this time-consuming step.

1. Add tahini, garlic, and lemon juice (or any of the listed alternatives), and oil (if using) to a food processor and process until smooth and slightly whipped.
2. Add garbanzo or other beans, any seasoning(s) you wish, salt, and liquid (2 tbsp [30 ml] if using oil, 4 tbsp [60 ml] if omitting oil). Process until completely smooth.
3. Add more liquid if the dip is too thick. Adjust lemon, other seasonings, and salt to taste.
4. Serve now or refrigerate and serve later.

Makes: 2-½ cups (600 ml) of hummus or bean dip (20 servings of 2 tbsp [30 ml] each)

Nutritional Info (per 2 tbsp [30 ml] serving, made oil-free): Calories 52, Total Fat 3.5g, Saturated Fat 0.5g, Cholesterol 0mg, Sodium 110mg, Total Carbohydrate 3.9g, Dietary Fiber 1.1g, Sugars 0g, Protein 2g, Vitamin A 0%, Vitamin C 2%, Calcium 2%, Iron 3%

Nutritional Info (per 2 tbsp [30 ml] serving, made with oil): Calories 70, Total Fat 5.6g, Saturated Fat 0.8g, Cholesterol 0mg, Sodium 110mg, Total Carbohydrate 3.9g, Dietary Fiber 1.1g, Sugars 0g, Protein 2g, Vitamin A 0%, Vitamin C 2%, Calcium 2%, Iron 3%

Create Your Own Veggie Burgers and Patties

This is an all-purpose template that can be used to take whatever ingredients you have (or can imagine) and turn them into your plant-based burgers! These are nothing like the hamburger look-alikes filled with saturated fat, sodium, and highly processed ingredients engineered to taste like meat. These burgers are filled with plant-based goodness and taste like the ingredients they contain. You can also use this template to make smaller, falafel-sized patties and use them in wraps or for toppings on salads or bowls (see "Building Healthy Bowls").

Ingredients:
2 tbsp (30 ml) water or oil (for sautéing)
1 medium onion, small dice
2 small cloves garlic, minced
2 cups (480 ml or about 350 g) vegetables, small dice or finely chopped in a food processor (should not be paste!)
1 cup (200 g) cooked, whole grains
1 ½ cups (400 g) cooked beans or lentils, well-drained
¼ cup (60 ml or about 30 g) chopped nuts or seeds, nut butter, tahini, or chopped olives (pick 1 or a combination)
¼ cup (60 ml or 15-25 g) finely minced herbs or scallions
1 tbsp (15 ml) spice mixture of your choice (e.g., chili powder, curry powder, or a mixture of individual spices you like), adjust amount based on your flavor preferences
½ cup (120 ml or 100-125 g) binder (e.g., whole grain breadcrumbs, ground oats, or almond meal)
½ tsp (2.5 ml) salt, or to taste (optional)
2 tbsp (30 ml) oil or a small amount of non-stick spray, optional

Instructions:

1. Heat large skillet over medium-high heat, then add water or oil. Add onions, garlic, vegetables, and a couple pinches of salt (optional). Sauté, stirring frequently until vegetable have cooked through and are no longer extruding liquid, about 8-10 minutes. You may need to reduce heat or add a bit of water toward the end of cooking to prevent burning.
2. Add all cooked vegetables and all remaining ingredients to the bowl of a large food processor and pulse just to combine. It should still have some texture and hold together when pressed into a ball. If too wet, pulse in more binder. If too dry, add some mashed beans or a teaspoon or two of water. Adjust seasoning to taste by adding more spice mixture or salt, as needed. If you don't have a food processor, you get your hands dirty and mash ingredients together manually.
3. Form into either 8 burgers or around 30 falafel-sized patties, depending on their intended use.
4. Heat a clean, large skillet (use nonstick if omitting oil) over medium to medium-high heat, then add 1 tbsp (15 ml) of oil (optional) or enough nonstick spray to lightly coat, and add a batch of the burgers or patties to the pan, cooking until browned on the first side, then flip and cook until browned on the second side and cooked through. This will take about 3-4 minutes per side for burgers and 2-3 minutes per side for falafel-sized patties. Repeat. Alternatively, you can heat two pans and cook all of the burgers/patties at once.
5. Serve or place on a rack to cool. If freezing for later, make sure they are completely cool before wrapping tightly and storing in an airtight container for up to 3 months. To reheat, you can heat in a dry skillet on the stove top, bake at 350°F (175°C), or heat until warmed through in the microwave (though they won't be as crisp is using the microwave).

Makes: 8 burgers or about 30 falafel-sized patties

Nutritional Info (1/8 recipe; varies by ingredients, approximately): Calories 251, Total Fat 6.9g, Saturated Fat 0.9g, Cholesterol 0mg, Sodium 159mg, Total Carbohydrate 39g, Dietary Fiber 4.7g, Sugars 2.5g, Protein 9g, Vitamin A 9%, Vitamin C 19%, Calcium 3%, Iron 13%

Recipes by Class Session: Session 6—Healthy Breakfasts

With Spotlights on Reading Nutrition Labels & Cutting Out Added Sugars

Steel-cut Oats

Steel-cut oats are a less-refined, more-satiating version of oatmeal. Making them from scratch at home helps you to avoid the high levels of added sugars that come in many pre-packaged oats. These keep well in the fridge, so batch cook if you enjoy eating oats on a regular basis. In class, these oats will be served aside an array of topping options; some examples are given in the recipe, but your imagination is the limit!

Ingredients:
3 cups (720 ml) water
1 cup (160 g) steel-cut oats
A pinch of salt, optional

Optional toppings:
Fresh or dried fruit, nuts, flaxseeds, pepitas, chia seeds, cinnamon, ground ginger, dates, honey, maple syrup, unsweetened shredded or flaked coconut, non-dairy milk of choice, cocoa nibs, cocoa or carob powder, chopped herbs and scallion, sautéed or roasted vegetables, etc.

Instructions:
1. Bring water to a boil in a heavy-bottomed saucepan. Stir in oats and salt (optional). As soon as it comes to a boil again, turn down to a simmer, covered, and cook until water is absorbed and oats are tender but firm, about 40 minutes. Stir frequently.

2. Divide oats between 4 bowls, add any toppings of your choice, and enjoy!

Servings: 4

Nutritional Info (per serving): Calories 152, Total Fat 2.7g, Saturated Fat 0.5g, Cholesterol 0mg, Sodium 40mg, Total Carbohydrate 26g, Dietary Fiber 4.1g, Sugars 0g, Protein 6.6g, Vitamin A 0%, Vitamin C 0%, Calcium 3%, Iron 10%

Tofu Scramble—To replace scrambled eggs

This basic recipe for tofu scramble will satisfy a scrambled egg craving. It is not meant to be an identical stand-in but has flavor and texture profiles reminiscent of eggs.

Ingredients:
2 tbsp (30 ml) water or broth (or 1 tbsp oil)
l pound (450 g) firm tofu, drained and patted dry (do not sure super firm or extra firm)
1 tsp (5 ml) honey, agave, or other liquid sweetener of your choice, optional
1 ½ tbsp (22.5 ml) nutritional yeast
¼ to ½ tsp (1.25 to 2.5 ml) turmeric, adjust so color is similar to scrambled eggs
1 tsp (5 ml) low-sodium soy sauce or tamari
A couple pinches of Indian black salt, to taste*
Freshly ground black pepper, to taste

Instructions:
1. Heat a large nonstick sauté pan over medium-high heat, then add water, broth, or oil. Crumble tofu into pan and add sweetener, nutritional yeast, ¼ tsp (1.25 ml) turmeric, soy sauce, a couple pinches of black salt, and freshly ground black pepper. Stir to thoroughly combine.
2. Cook until liquid evaporates from the tofu and add more turmeric if not yellow enough. Taste for seasoning and add more black salt as needed to achieve the slight sulfurous taste of eggs.
3. Cook until the amount of moisture you want to evaporate has occurred. Remove from heat and serve.

Notes:
- *Indian black salt goes by a number of names. It is a type of salt with sulfur-containing impurities and it give food an umami, eggy taste. The salt isn't always black, despite the name. It can range from black, to purple, to a brownish-pink color prior to cooking and when added to food may change to deep reds and browns from the iron sulfide compounds in the salt. If you omit the salt, it will not taste as "eggy", but will still be tasty.
- The sweetener and oil help with browning, if omitted, there will be little to no browning and you would just cook until liquid has evaporated plus a couple extra minutes to dry the mixture somewhat.

Servings: 4 servings

Nutritional Info (per serving): Calories 139, Total Fat 8.2g, Saturated Fat 1.4g, Cholesterol 0mg, Sodium 200mg, Total Carbohydrate 5.9g, Dietary Fiber 1.7g, Sugars 2.2g, Protein 12.3g, Vitamin A 0%, Vitamin C 0%, Calcium 23%, Iron 12%

Tofu Scramble with Vegetables & Spices

This recipe for tofu scramble is great at breakfast or any time of the day. It's especially good as a filling in veggie burritos (see below) or topped with chopped cilantro and salsa. Finding ways to incorporate plant-based proteins and vegetables into breakfast is important for health and satiety—especially if you tend to get hungry an hour or two after high-carbohydrate breakfasts.

Ingredients:
2 tbsp (30 ml) water or broth (or 1 tbsp [15 ml] oil)
l pound (450 g) firm tofu, drained and patted dry
½ green bell pepper, small dice
½ medium onion, small dice
1-2 cups (240-480 ml or 175-350 g) chopped broccoli, cauliflower, zucchini, kale, or mushrooms
1 small carrot, grated or minced
2 tbsp (30 ml) nutritional yeast
½ tsp (2.5 ml) turmeric
¼ tsp (1.25 ml) cayenne pepper
½ tsp (2.5 ml) garlic powder
½ tsp (2.5 ml) ground cumin
Freshly ground black pepper, to taste
1 tbsp (15 ml) low-sodium tamari or soy sauce
1 tsp (5 ml) honey, agave, or other liquid sweetener of your choice, optional

Instructions:

1. Heat a large nonstick sauté pan over medium-high heat, then add water, broth, or oil. Crumble tofu into pan and add green pepper, onion, and chopped vegetables except for carrot. Stir occasionally until most of the water released from the tofu and vegetables has evaporated.
2. Add remaining ingredients (carrot, nutritional yeast, turmeric, cayenne, garlic powder, cumin, pepper, tamari, syrup); stir well and cook for 1 minute or until mixture starts to brown slightly. Remove from heat and serve. Note: the sweetener and oil help with browning, if omitted, there will be little to no browning and you would just cook until liquid has evaporated plus a couple extra minutes to dry the mixture somewhat.

Notes:

- You can really add any vegetables to this dish. It works best to chop them small. Add when you would add the onions and pepper.
- To make a delicious burrito for breakfast, lunch, or dinner, pile the scramble into a whole wheat tortilla with any of the following: nut-based "cheese", salsa, pinto or black beans, roasted potatoes or Spanish brown rice, shredded lettuce or cabbage, and/or chopped cilantro.

Servings: 4 servings

Nutritional Info (per serving): Calories 160, Total Fat 8.5g, Saturated Fat 1.5g, Cholesterol 0mg, Sodium 161mg, Total Carbohydrate 11.1g, Dietary Fiber 3.1g, Sugars 4.3g, Protein 13g, Vitamin A 8%, Vitamin C 51%, Calcium 25%, Iron 15%

Non-dairy Yogurt Parfait

Buying yogurt these days is confusing—so many brands appear healthy but are loaded with sugar! Your best bet is to find a brand of unsweetened, plain, plant-based yogurt that you like, and then flavor and sweeten to your individual taste. Many of the yogurt options at the market—both plant-based and dairy—are highly sweetened. For plant-based yogurts, it can sometimes be tricky to find options that are both unsweetened and fortified with calcium and vitamin D, so make sure to read labels. If buying brands with little or no calcium, make sure you have other good sources of calcium in your diet (see Introduction and the *Amount of Calcium in Non-dairy and Dairy Foods* Handout). If you cannot find a plant-based yogurt without added sugar, aim for one with <8 g sugar per 6 oz. (180 g) serving as this would be the amount of naturally occurring sugars from lactose in dairy yogurt. In class, non-dairy yogurt will be served aside an array of topping options; some examples are given in the recipe, but your imagination is the limit!

Ingredients:
6 ounces (180 g) unsweetened, plain, plant-based yogurt

Optional toppings/mix-ins:
Fresh or dried fruit, nuts, flaxseeds, pepitas, chia seeds, cinnamon, ground or grated ginger, dates, honey, maple syrup, pure vanilla extract, unsweetened shredded or flaked coconut, cocoa nibs, cocoa or carob powder, etc.

Instructions:
1. Add yogurt to a bowl, top with toppings or mix-ins of choice, and enjoy!

Makes: 1 serving

Nutrition info: varies widely depending on yogurt and toppings chosen.

Whole Grain Omega-3 Waffles or Pancakes

This quick and easy waffle (or pancake) recipe is a delicious and healthy take on a breakfast staple that is traditionally laden with unhealthy oils, white flour, and sugar. This recipe takes advantage of the natural sweetness of spelt and fruit so added sugar isn't needed. It also incorporates two sources of omega-3's (chia & flax) to replace the egg. One serving provides nearly 1/3 of your daily calcium needs without using any dairy or eggs!

Ingredients:
2 cups (480 ml) unsweetened plant-based milk
¼ tsp (1.25 ml) vanilla extract (omit if non-dairy milk is vanilla-flavored)
1 tsp (5 ml) apple cider vinegar
2 tbsp (30 ml) chia seeds
2 tbsp (30 ml) flaxseed meal
1 cup (115 g) whole wheat flour
¾ cup (75 g) spelt flour
1 tbsp (15 ml) baking powder
½ tsp (2.5 ml) baking soda
¼ tsp (1.25 ml) salt
Coconut, canola, other oil, optional (for cooking pancakes)

Optional syrup:
1 ½ cups (150 g) frozen fruit (blueberries and strawberries are excellent options)
½ cup (120 ml) real maple syrup*

Instructions:
1. Preheat a nonstick waffle iron to high heat. (Omit this step if making pancakes.)
2. Mix the plant-based milk, vanilla, vinegar, chia seeds, and flaxseed meal together and set aside.
3. In medium bowl, whisk together the whole wheat flour, spelt flour, baking powder, baking soda, and salt.
4. Add the plant-based milk mixture to the dry mixture and stir to just combine. It is alright if a few small clumps of flour remain. Do NOT over stir or the waffles will be tough and won't rise as expected.
5. To make waffles, cook in a waffle iron, per your machine's instructions.
6. To make pancakes, add a 2-4 tablespoons (30-60 ml) of water to thin the batter. It will not be as thin as typical pancake batter and you may need to encourage it to spread in the pan by using a spatula. Heat a large nonstick griddle or skillet over medium heat until a few drops of water sizzle immediately when dropped on the pan but don't spatter back at you (that would indicate the pan is too hot). Otherwise, cook as you normally would pancakes, turning once bubbles form throughout and the edges start to dry ever so slightly. **Note: Pancakes taste best when cooked in a small amount of neutral tasting oil or coconut oil, and a bit of oil must be used if not using a nonstick pan. Oil can be omitted if using nonstick, but pancakes are slightly drier than when a small amount of oil is used.
7. Keep waffles or pancakes warm in a 180°F (80°C) oven while using up the batter so that everyone can eat warm waffles or pancakes at the same time. Alternatively, lay out on a cooling rack to cool completely and then freeze. These can be microwaved (pancakes) or microwaved and then toasted on the lowest setting of the toaster, twice (waffles) for quick breakfasts later.
8. Syrup: heat frozen fruit and maple syrup together in a bowl in the microwave (or pan on the stove) until fruit has thawed and the mixture is warm and bubbling on the edges.
9. Serve waffles or pancakes with the optional syrup and/or fresh fruit. They're also delicious spread with a bit of nut butter and drizzle of honey.

Note:
- *If you prefer to omit the maple syrup in the optional syrup, heat the fruit until fully cooked and sweeten to taste with date paste.

Whole Grain Omega-3 Waffles or Pancakes (continued)

Makes: 6 Belgian waffles, 8 standard waffles, or 8-10 6-inch (15-cm) diameter pancakes.

Nutritional Info (1 standard waffle with ¼ cup [25 g] blueberries and 1 tbsp [15 ml] maple syrup): Calories 209, Total Fat 3.5g, Saturated Fat 0g, Cholesterol 0mg, Sodium 179mg, Total Carbohydrate 41g, Dietary Fiber 5.6g, Sugars 16g, Protein 6.4g, Vitamin A 0%, Vitamin C 6%, Calcium 21%, Iron 10%

Whole Wheat, Chickpea Pancakes (with gluten-free option)

High-protein foods are all the rage. Most are filled with highly processed and/or animal protein sources. These pancakes take advantage of chickpea flour to up the protein and fiber contents and reduce the glycemic load of this traditionally high-carbohydrate breakfast item.

Ingredients:
2 tbsp (30 ml) flaxseed meal
1 cup (85 g) chickpea flour
1 cup (115 g) whole wheat flour*
2 tsp (10 ml) vital wheat gluten, optional, but texture is better when included*
2 tsp (10 ml) baking powder
½ tsp (2.5 ml) salt**
1 tsp (5 ml) cinnamon
2 cups (480 ml) unsweetened soymilk (or other plant-based milk)
1 ½ tbsp (22.5 ml) unsweetened applesauce (or 2 tbsp [30 ml] canola oil)
2-4 tbsp (30-60 ml) water, to thin
Nonstick spray, canola, or other neutral oil, optional (for cooking)

Optional toppings: Fresh fruit, Date paste thinned to a syrup, Maple syrup, or Honey

Instructions:

1. In a liquid measuring cup, combine flaxseed meal and fill with boiling water to the 1/3 cup (80 ml) mark; whisk together.
2. In a medium mixing bowl, whisk together flours, wheat gluten (if using), baking powder, salt, and cinnamon until thoroughly combined.
3. In another mixing bowl, whisk together flaxseed mixture, soymilk, applesauce or oil, and 2 tbsp (30 ml) of water. Stir this wet mixture into the dry mixture until just combined. Thin with water to the typical consistency of pancake batter.
4. Heat nonstick skillet over medium heat, spray with nonstick spray or wipe with a little oil (optional), then pour batter in to make about 6-inch (15-cm) diameter pancakes. Cook over slightly lower heat than pancakes made entirely with grain flour as they take a bit longer to cook. Heat on one side until the edges begin to dry slightly then flip and cook until no longer wet/gummy in the center. You can omit the oil if using a nonstick pan, but the pancakes will turn out a bit drier.
5. Keep pancakes warm in a 180°F (80°C) oven while using up the batter so that everyone can eat warm pancakes at the same time. Alternatively, lay out on a cooling rack to cool completely and then freeze. These can be microwaved for quick breakfasts later.
6. Serve topped with fresh fruit, fruit blended with a bit of date paste, or a drizzle of date paste thinned to a syrup, real maple syrup, or honey.

Notes:

- *To make pancakes gluten-free, omit vital wheat gluten and replace whole wheat flour with chickpea flour. These will taste more distinctly of chickpeas and have texture not as similar to more traditional pancakes. Alternatively, you can replace whole wheat flour with a gluten-free flour blend which would result in a less bean-y pancake.
- **From a culinary perspective, baked goods taste best when some amount of salt is included. From a health perspective, feel free to omit, but make sure to up cinnamon a bit and top with a lot of fruit to make up for the lack of salt.

Makes: about 12 pancakes.

Whole Wheat, Chickpea Pancakes (with gluten-free option) (continued)

Nutritional Info (per 2 pancakes, topping not included): Calories 210, Total Fat 8.5g, Saturated Fat 0.8g, Cholesterol 0mg, Sodium 234mg, Total Carbohydrate 26.4g, Dietary Fiber 5g, Sugars 2g, Protein 9g, Vitamin A 0%, Vitamin C 0%, Calcium 20%, Iron 12%

Nutritional Info (per 2 pancakes, 1/3 banana, 1 tbsp [15 ml] maple syrup): Calories 297, Total Fat 8.7g, Saturated Fat 0.8g, Cholesterol 0mg, Sodium 237mg, Total Carbohydrate 49g, Dietary Fiber 6g, Sugars 19g, Protein 9g, Vitamin A 0%, Vitamin C 6%, Calcium 22%, Iron 13%

Overnight Oats

This recipe is perfect for batch "cooking"—though no cooking is required! Double or triple the recipe as needed and have a grab-and-go breakfasts at the ready. Eat cold or heat to desired temperature in the microwave.

Ingredients:
Overnight Oats:
2 very ripe bananas
¼ cup (40 g) chia seeds
½ tsp (2.5 ml) cinnamon
½ tsp (2.5 ml) vanilla extract
1 cup (100 g) rolled oats
1 ½ cups (360 ml) unsweetened plant-based milk
Pinch of salt, optional

Optional toppings:
Unsweetened Coconut Flakes
Diced mango, banana, pineapple, or stone fruit
Fresh berries
Toasted sliced almond or roasted chopped nuts

Instructions:
Mash together bananas, chia seeds, cinnamon, and vanilla extract with your hands or a potato masher. Stir in oats, non-dairy milk, and salt (optional). Divide into two 3-cup (0.75 L), or four pint (0.5 L), canning jars (there will be room for toppings) and screw on lids. Refrigerate overnight, or for up to 5 days. Add toppings of your choice on the day you plan to eat for optimal flavor, but they can be added ahead for convenience and will still be tasty. If heating to eat, do so without lid on jar and before adding toppings.

Makes: 2-4 servings (2 servings are very large)

Nutritional Info (1/3 recipe, overnight oats, no toppings): Calories 297, Total Fat 7.6g, Saturated Fat 1.3g, Cholesterol 0mg, Sodium 150mg, Total Carbohydrate 46g, Dietary Fiber 10.6g, Sugars 10g, Protein 10.6g, Vitamin A 0%, Vitamin C 12%, Calcium 28%, Iron 17%

Recipes by Class Session: Session 7—Pastas & Sauces

With a Spotlight on Italian Flavors

Pasta Primavera (with or without white beans)

This recipe gives options to make the dish the traditional way—with dry spaghetti—or with fresh pasta. To improve the healthfulness of this dish, you can use whole grain or bean- or lentil-based pasta in place of the regular, semolina pasta. However, even regular, semolina pasta when cooked al dente has a lower glycemic load than whole grain bread. Fat further reduces the glycemic load of a pasta dish by slowing the digestion of the starches in the pasta—if you omit the oil, add in a handful of pitted olives or plant-based parmesan (see recipe).

Ingredients:
1 pound (450 g) of fresh pasta or ½ pound (225 g) dry spaghetti noodles*
¼ cup (60 ml) vegetable broth (or 2 tbsp [60 ml] extra-virgin olive oil)**
2 cloves garlic, sliced thinly
4 cups (1 L or about 700 g) vegetables***
1 cup (250 g) cooked white beans (or about 2/3 can, rinsed and drained), optional****
A couple pinches crushed red pepper flakes
1 handful minced parsley or chiffonade of basil
Juice of ½ lemon
Salt, for boiling pasta and to season dish to taste (optional)

Instructions:

1. Boil pasta according to package directions in 2 quarts (2 L) of water salted with 1 ½ teaspoons (7.5 ml) of salt (optional). For fresh pasta make sure not to overcook. For dry pasta, aim for a bit less done than al dente. Drain pasta reserving ½ cup (120 ml) of the liquid to use in the sauce. Do NOT rinse pasta.
2. Heat a large nonstick sauté pan set over medium-high heat, add half of the broth (or all of the oil), sliced garlic, and vegetables. Cook stirring regularly until vegetables are becoming tender but still have a bit of bite remaining. Add more broth or water as needed while cooking. Add beans at the end of cooking to just warm through.
3. When vegetables are done, add a couple pinches of crushed red pepper flakes, immediately add the drained pasta, and stir to coat pasta. Stir in a ¼ cup (120 ml) of pasta cooking liquid and stir vigorously to make a light sauce of the juices and water. Cook for 1 minute for fresh pasta (do NOT overcook fresh pasta!) or cook dried pasta until al dente, adding a bit more cooking liquid if needed to prevent the dish from drying out (for dried pasta only).
4. Squeeze lemon juice over the dish and season to taste with crushed red pepper and salt (optional), serve immediately. Garnish with chopped fresh parsley and basil.

Notes:

- *Pasta substitution: whole grain pasta or bean- or lentil-based pasta, any shape, for the spaghetti
- **If making without oil, add a handful or two of pitted olives or serve with plant-based parmesan (see recipe).
- ***Make sure all vegetables are cut small enough to cook quickly, as you would do for a stir-fry. Cauliflower, broccoli, snap peas, green beans, wax beans, zucchini, summer squash, cherry tomatoes, or sliced carrots or peppers are good options.
- ****Beans aren't a traditional ingredient in pasta primavera, but they are a tasty way to add more protein and fiber. Think of this as a cross between pasta primavera and pasta e fagioli (pasta with beans). White beans or garbanzos work best in this dish.

Servings: 4

Nutritional Info (per serving without beans): Calories 380, Total Fat 8.4g, Saturated Fat 1.3g, Cholesterol 0mg, Sodium 314mg, Total Carbohydrate 62.7g, Dietary Fiber 9.5g, Sugars 5.1g, Protein 14.7g, Vitamin A 2%, Vitamin C 87%, Calcium 4%, Iron 19%

Nutritional Info (per serving with beans): Calories 430, Total Fat 8.9g, Saturated Fat 1.3g, Cholesterol 0mg, Sodium 334mg, Total Carbohydrate 71.2g, Dietary Fiber 12g, Sugars 5.6g, Protein 17.7g, Vitamin A 2%, Vitamin C 87%, Calcium 6%, Iron 24%

Cashew Fettuccine Alfredo

This recipe showcases a delicious creamy sauce that just happens to be dairy-free, cholesterol-free, and much lower in calories and saturated fat than traditional alfredo sauces made with dairy butter and cream. This is one of the few recipes that I actually think turns out well with either fresh or frozen vegetables, so it can be made entirely from pantry and frozen ingredients if you don't have time/money to shop for fresh veggies. Check out the option for creamy lemon pasta, below.

Ingredients:

1 pound (450 g) fettuccine noodles (or any other noodle shape you like, ideally whole grain)
1 tbsp (15 ml) salt (for pasta water), optional
½ pound (225 g) fresh or frozen peas (can substitute any fresh or frozen small diced vegetables), optional
Parsley, chopped, optional
Lemon slices, optional

Cashew Alfredo

2 cups (480 ml) low-sodium vegetable stock
½ cup (80 g) raw cashews (substitute ¼+ cup (70 ml) cashew butter if you don't have a high-powered blender)
2 tsp (10 ml) apple cider vinegar
2 tbsp (30 ml or 10 g) nutritional yeast
2 tbsp (30 ml or 15 g) all-purpose flour (can sub a gluten-free flour, such as rice flour, to make gluten-free)
1 tsp (5 ml) garlic powder
1 tsp (5 ml) salt, optional
¼- ½ tsp (1.25-2.5 ml) freshly ground black pepper (½ tsp [2.5 ml] gives this a bit of kick)
1 tsp (5 ml) Italian seasoning

Instructions:

1. Bring 4 quarts (4 L) of water to a boil, add 1 tbsp (15 ml) of salt (optional), and then add pasta noodles, stirring well to prevent noodles from sticking. Cook until for the length of time indicated on the package (this is generally not long enough to reach the ideal al dente stage), then add the peas or other vegetables and boil for 1-2 minutes. Test pasta to confirm that it is al dente. Then, reserve 1 cup (240 ml) of the pasta water and drain noodles and peas/veggies in a colander.
2. While pasta is boiling, make the cashew alfredo. Measure all ingredients for the alfredo into a blender (ideally, a high-powdered blender) and blend until the mixture is smooth when rubbed between two fingers. If it is gritty, blend longer. In a saucepan over medium heat, cook alfredo, stirring constantly until thickened to a creamy sauce (takes 2-5 minutes); remove from heat.
3. Return pasta and veggies to the pan and pour cashew alfredo over them. Stir to combine and thin with a bit of the pasta boiling water, if needed. Transfer to a serving bowl and garnish with chopped parsley and lemon, if desired.

Notes:

- If you prefer to have big chunks of fresh veggies in this dish, you can still add larger pieces of vegetables to the pasta water a couple minutes earlier on in cooking or skip that step, sauté them separately and add or top pasta after mixing with the alfredo sauce.
- Thin sauce more than you thick ideal in Step 3. The sauce continues to thicken after coating the pasta and can become dry if not thinned enough.
- From a culinary perspective, the sauce benefits from the inclusion the amount of salt listed. From a health perspective, if you wish to omit the salt, use a bit more lemon, Italian seasoning, and pepper to increase the flavor of the dish.
- *Creamy Lemon Pasta* option: make the cashew alfredo sauce, but substitute apple cider vinegar with 1 tbsp (15 ml) lemon juice (or more, to taste) when blending the sauce, and add the zest of 1 lemon when you toss the sauce with the pasta at the end. Omit Italian seasoning if you want a more straightforward lemon flavor. Sprinkle additional grated lemon zest and freshly cracked black pepper on the finished dish to serve.

Cashew Fettuccine Alfredo (continued)

Servings: 8 servings

Nutritional Info (per serving): Calories 329, Total Fat 7.3g, Saturated Fat 1.3g, Cholesterol 0mg, Sodium 336.8mg, Total Carbohydrate 53.4g, Dietary Fiber 4.7g, Sugars 4g, Protein 13.7g, Vitamin A 3%, Vitamin C 9%, Calcium 3%, Iron 14%

COMPARISON: Nutritional Info (per same sized serving of TRADITIONAL fettuccine alfredo): Calories 757, Total Fat 53.1g, Saturated Fat 32.9g, Cholesterol 167mg, Sodium 521.4mg, Total Carbohydrate 50.2g, Dietary Fiber 3.1g, Sugars 5.6g, Protein 20.7g, Vitamin A 60%, Vitamin C 19%, Calcium 41%, Iron 8%

Simple Tomato Sauce with Gluten-free Pasta

Tomato sauces on grocery store shelves are often high in sodium, can contain a substantial amount of added sugar, and are often watered down. Make this simple, but delicious sauce at home instead. You can adjust ingredients or seasonings as you wish—consider sautéing diced, garden-fresh vegetables along with the onions or adding other fresh or dried herbs.

Ingredients:
Tomato Sauce:
2 tbsp (30 ml) vegetable broth (or 1 tbsp [15 ml] olive oil)
½ small yellow onion, small dice
2 cloves garlic, minced
1 14.5-ounce (400 g) can no-salt-added crushed tomatoes
1 14.5-ounce (400 g) can no-salt-added diced tomatoes (fire-roasted are especially good, if available)
2 tsp (10 ml) Italian seasoning, optional
Freshly ground black pepper, to taste
Salt, to taste (optional)
Pinch of sugar, date paste, or agave, or to taste

Pasta:
1 pound (450 g) gluten-free brown rice or quinoa pasta (or substitute any other pasta of your choice)
Salt, optional (for pasta water)

To serve:
A handful of basil leaves, chiffonade (sliced thinly)
Plant-based parmesan (see recipe), optional

Instructions:
1. Heat medium saucepan, over medium heat, then add broth or oil. Add onion and cook until translucent, about 5 minutes. Add garlic and cook a minute more, stirring continuously. Add the tomatoes and season with pepper and salt (optional), to taste. If too acidic or bitter, balance with a pinch or two of sugar, as needed.
2. Simmer sauce for 15-60 minutes. When ready to serve, taste and adjust seasonings once more.
3. Meanwhile, boil pasta according to package directions in 4 quarts (4 L) of water salted with 1 tbsp (15 ml) of salt (optional) until al dente. Drain pasta. Do NOT rinse pasta nor coat in oil.
4. Return drained pasta to cooking pot; add desired amount of marinara and toss to coat. Serve topped with chiffonade of basil and optional plant-based parmesan.

Servings: 8 servings

Notes:
- Substitutions: any type of pasta—bean- or lentil-based, whole grain, regular, or fresh—for the gluten-free pasta. You can also serve this over spaghetti squash.
- Additions: sautéed or lightly steamed vegetables.

Nutritional Info (per serving): Calories 252, Total Fat 4g, Saturated Fat 0.3g, Cholesterol 0mg, Sodium 300mg, Total Carbohydrate 51.3g, Dietary Fiber 5.1g, Sugars 4g, Protein 5.4g, Vitamin A 2%, Vitamin C 20%, Calcium 4%, Iron 10%

Plant-based and Classic Basil Pestos

Pesto is one of the few pasta sauces that is best uncooked; in fact, cooking ruins the flavor. This is an excellent choice for anyone who is busy. Pesto can also be frozen in ice cube trays and used one cube at a time in any dish that you want to give a basil-garlic zing to. While classic pesto is made with basil, garlic, pine nuts, parmesan ,and olive oil, there are a lot of creative types of pesto that you can make with other vegetables, nuts, and herbs. This recipe shows how traditional Italian basil recipe (compatible with a Mediterranean-style diet) is transformed to a WFPB version.

Plant-based Pesto:

Ingredients:

3 cloves garlic, roughly chopped
3 ½ cups (840 ml or about 100 g) packed fresh basil leaves
2 tbsp (30 ml) mild-tasting nut butter (like cashew or almond, ideally raw)
1 tbsp (15 ml) lemon juice, or more to taste
¼ cup (25 g) pine nuts or walnuts, toasted
1/3 cup (80 ml) plant-based parmesan (see recipe)
A couple dashes curry powder
2 tbsp (30 ml) water, or more, to thin
Salt, to taste (optional)

Classic Basil Pesto (for reference):

Ingredients:

3-4 cloves garlic, roughly chopped
½ cup (120 ml) olive oil
3 ½ cups (840 ml or about 100 g) packed fresh basil leaves
¼ cup (25 g) pine nuts, toasted
¾ cup (65 g) grated parmesan cheese

Instructions:

1. Place garlic, nut butter, and lemon juice in the food processor and process until garlic is very finely chopped. (For traditional: add olive oil instead of nut butter and lemon juice.)
2. Add basil, pine nuts, plant-based parmesan, a couple dashes of curry powder, and water; pulse until mixture resembles a paste of finely chopped, but not completely smooth, ingredients. You may need to thin a bit more with water. Season to taste with lemon juice and salt. (For traditional: this step would include basil, pine nuts, and parmesan only.)

Notes:

- Either pesto version can be stored for several days in the refrigerator; for longer storage, freeze. To prevent browning of the basil in traditional pesto, a bit of oil is drizzled over the top of the container used for storage, so the basil is not able to oxidize quickly. For the plant-based version, you can instead press plastic wrap directly on top of the pesto to limit exposing the pesto to air.
- To freeze, line an ice cube tray with plastic wrap, then fill with pesto, and freeze. Pop out the cubes when frozen and store them in an airtight bag or container in the freezer. Since the cubes are small, they can be stirred into any dish and thaw very quickly. Note: don't skip the plastic wrap step if you plan to use the ice cube tray for ice later on; pesto will cause ice cubes to have a garlic-basil flavor.

Makes: 1 ½ cups (360 ml) (approximately 12 servings for WFPB version or 16 servings for Classic version)

Nutritional Info (Plant-based version): Calories 42, Total Fat 2.8g, Saturated Fat 0.5g, Cholesterol 0mg, Sodium 102mg, Total Carbohydrate 2.7g, Dietary Fiber 0.6g, Sugars 0g, Protein 2g, Vitamin A 2%, Vitamin C 9%, Calcium 2%, Iron 4%

Nutritional Info (Classic version): Calories 97, Total Fat 9.6g, Saturated Fat 1.9g, Cholesterol 3.6mg, Sodium 74.4mg, Total Carbohydrate 1g, Dietary Fiber 0g, Sugars 0g, Protein 2.4g, Vitamin A 3%, Vitamin C 6%, Calcium 8%, Iron 3%

Pesto with Bean (or Lentil) Pasta

There are a variety of pastas on the market that include plant and/or egg proteins to increase the overall protein content of pastas. For an entirely WFPB diet, select an option based on beans or lentils. Higher protein and less starch reduce the glycemic load, and therefore the effect of the meal on blood sugar. These bean- and lentil-based pastas don't absorb sauces as well as traditional pasta, so while this reduces the amount of sauce needed, it also means that opting for more flavorful sauces is important so that you don't end up with a bland dish. Pesto is a great choice.

Ingredients:
1 pound (450 g) dried bean- or lentil-based pasta
½ to ¾ cup (120 to 180 ml) pesto, any type, to taste
Salt, for boiling pasta and to season dish to taste (optional)

Instructions:

1. Boil pasta according to package directions in 4 quarts (4 L) of water salted with 1 tablespoon (15 ml) of salt (optional) until al dente. Drain pasta reserving ½ cup (120 ml) of the liquid. Do NOT rinse pasta. Return pasta to the cooking pot.
2. In the pot, toss the cooked pasta with ½ cup (120 ml) of pesto and mix thoroughly. If the pasta is not completely coated in pesto, add another ¼ cup (60 ml) of pesto, or to taste. Add a bit of pasta cooking liquid and mix vigorously to emulsify with the pesto.
3. Season to taste with salt (optional), transfer to a serving dish (leaving in the warm pot will speed browning) and serve immediately to preserve the bright green color. It is still tasty after sitting but may look more brown in appearance.

Notes:

- Substitutions: any type of pasta—gluten-free, whole grain, or regular—for the bean- or lentil-based pasta.
- Additions: sautéed or lightly steamed vegetables. This is delicious served with wedges of lemon.

Servings: 8 servings

Nutritional Info (per serving, Plant-based Pesto): Calories 235, Total Fat 4.6g, Saturated Fat 0.6g, Cholesterol 0mg, Sodium 200mg, Total Carbohydrate 41.3g, Dietary Fiber 5g, Sugars 2g, Protein 11.7g, Vitamin A 1%, Vitamin C 7%, Calcium 4%, Iron 13%

Nutritional Info (per serving, Classic Basil Pesto): Calories 276, Total Fat 9.5g, Saturated Fat 1.7g, Cholesterol 2.7mg, Sodium 150mg, Total Carbohydrate 40.3g, Dietary Fiber 4.5g, Sugars 2g, Protein 12.1g, Vitamin A 2%, Vitamin C 6%, Calcium 8%, Iron 12%

Using Spiralized Veggies in Place of Pasta

The idea of using spiralized noodles (aka. "zoodles" in the case of zucchini) isn't new, but it might be new for you!

Any relatively straight, cylindrical or round veggie can be turned into veggie noodles with the use of a special tool called a Spiralizer. Alternatively, with a bit more work but no new kitchen gadgets you can make veggies noodles with a vegetable peeler + knife, box grater, or Mandolin. You can also buy them already cut into noodles at many grocery stores.

Spiralized noodles used in place of pasta increase the fiber content of a dish while decreasing calories and carbohydrates compared with regular pasta.

For example: **1 cup of zoodles has 18 Calories and 4 grams of carbs while 1 cup of cooked pasta has 180 Calories and 40 grams of carbs.**

Zoodles are low-carb, vegan, gluten-free, paleo-friendly and generally a great way to get more veggies into your diet.

Spiralized veggie "pasta" can be finicky, however. To make sure that your finished dish turns out delicious—rather than a soggy mess of overcooked zucchini—use the tips/methods below.

1. Eat the zoodles raw—easiest, fastest, least prone to sogginess method
2. Before cooking, pat zoodles dry to remove excess moisture.
3. Sauté for very briefly then toss with sauce and serve immediately.
4. Add zoodles to a bowl, cover and microwave just until slightly warm. Serve immediately with your choice of toppings.
5. Try reducing your sauce a bit before using to top zoodles—this works especially well for tomato sauces.
6. Cook zoodles and sauce separately. To serve, top a pile of zoodles with sauce.
7. Use raw or lightly cooked zoodles that have been cooled quickly to make "pasta" salads; zoodles are less likely to get soggy when served cold.
8. If you've cooked your zoodles a bit too long, rescue them by placing in a colander and running cold water over them. (Wildly overcooked zoodles can't be rescued.)

Plant-based Macaroni & Cheese

Macaroni and cheese is comfort food. Many who grew up eating a boxed kit complete with neon orange powdered "cheese", may have given it up in adult years when trying to eat healthier. However, this plant-based version is a great alternative that lets you have your mac & cheese and eat it, too!

Ingredients:
¼ cup (60 ml) vegetable broth (or 3 tbsp [45 ml] olive oil)
1 large carrot, peeled, small dice
¼ cup (60 ml) small diced onion
½ pound (225 g) yellow potatoes, small dice
¼ cup (60 ml) water
½ cup (80 g) raw cashews
¼ cup (60 ml or 20 g) nutritional yeast
1 ½ tsp (7.5 ml) yellow mustard
¼ tsp (1.25 ml) turmeric
Pinch ground cayenne
1/8 tsp (0.6 ml) freshly ground black pepper
2 cups (480 ml) unsweetened soymilk or other plant-based milk
¼-½ tsp (1.25-2.5 ml) apple cider vinegar
1 tsp (5 ml) freshly squeezed lemon juice
1 pound (450 g) elbow macaroni, any type
Salt (optional)

Instructions:

1. Bring a stock pot of water to boil for cooking pasta while completing the next few steps.
2. Heat a large nonstick sauté pan over medium-high heat, then add vegetable broth or olive oil. Add carrot, onion, potatoes, and a pinch of salt (optional). Sauté until slightly browned (if using oil) or until broth evaporates (oil-free). Add ¼ cup (60 ml) water and simmer, stirring regularly, until water evaporates.
3. Add cashews, nutritional yeast, mustard, turmeric, cayenne, black pepper, and ½ tsp (2.5 ml) salt; stir to combine. Then, deglaze pan with soymilk, scraping up the browned bits from the bottom of the pan. Stir constantly until heated through, but don't boil.
4. Transfer mixture to a blender and blend until completely smooth. Rub the mixture between two fingers to feel for grittiness and continue blending until no grittiness remains. This may take as little as a minute in a high-powered blender or several minutes in a regular blender. Return mixture to the pan, season with lemon juice, apple cider vinegar, and salt (optional), to taste. Set off the heat, covered with a lid.
5. When the stock pot of water is boiling, salt the pasta water (optional) and add the pasta. Cooking according to package directions, then drain, reserving 1 cup (240 ml) of the pasta cooking water.
6. Stir the drained noodles into the cheese mixture and thin with a few tbsp (30 ml) at a time of hot pasta water, stirring after each addition, until it is a bit thinner consistency than you want. It will thicken as it sits.
7. Serve—ideally with a green vegetable or salad.

Servings: 8

Nutritional Info (per serving): Calories 361, Total Fat 11g, Saturated Fat 2g, Cholesterol 0mg, Sodium 300mg, Total Carbohydrate 53g, Dietary Fiber 4.3g, Sugars 1.7g, Protein 12.6g, Vitamin A 5%, Vitamin C 11%, Calcium 11%, Iron 21%

Plant-based Parmesan

The following recipe is much better tasting than the ubiquitous powdered parmesan found on grocery shelves and in pizza parlors. It's a great option for adding a savory, slightly salty complexity to a dish and adds a whole food fat option to plant-based dishes so you can absorb the fat-soluble vitamins.

Ingredients:
1 cup almonds or cashews*
¼ cup (60 ml or 20 g) nutritional yeast
1 tsp (5 ml) salt**
¼-½ tsp (1.25-2.5 ml) garlic powder

Instructions:
1. Add all ingredients to a food processor and pulse until ground to the consistency of a meal, but don't go as far as a true powder or you risk making almond or cashew butter.

Notes:
- *Almonds have a more complex flavor, but most people use cashews—try them both!
- Roasting the nuts yields a nuttier, stronger flavor. Some people prefer raw, while others prefer roasted.
- Use ¼ tsp (1.25 ml) garlic if you don't want the garlic to stand out, a bit more if you like garlic
- **You can omit the salt, but it will not taste as much like cheese if you do.

Servings: 16

Nutritional Info (per 1 tbsp [15 ml]): Calories 76, Total Fat 3g, Saturated Fat 0g, Cholesterol 0mg, Sodium 148mg, Total Carbohydrate 3.3g, Dietary Fiber 1g, Sugars 2g, Protein 2g, Vitamin A 0%, Vitamin C 0%, Calcium 2%, Iron 2%

Recipes by Class Session: Session 8—The Dessert Flip & Healthy Desserts

With Spotlights on Chocolate, Quick Breads, and Fruit Desserts

Apple Crumble without an Oven

If you don't have an oven in your teaching kitchen, no worries—you can have your apple crumble and eat it, too! Options are given for a raw, oil-free crumble and a more traditional-style cooked crumble served with a filling that also has options to use water or oil. Making the recipe entirely WFPB (raw crumble and filling made with water and dates) or predominantly WFPB (cooked crumble and filling made with oil and maple syrup) will result in similar calorie and nutrient profiles.

Raw crumble topping (oil-free):
¾ cup (95 g) walnuts
¼ cup plus 2 tbsp (65 g) chopped dates
Pinch of salt, optional

Cooked crumble topping:
2 tbsp (30 ml) plant-based butter, coconut oil, or other oil
3 tbsp (45 ml) brown sugar or maple syrup
½ tsp (2.5 ml) vanilla
½ tsp (2.5 ml) cinnamon
Pinch of salt, if using oil or coconut oil (omit if using non-dairy butter because it's salted)
¾ cup (75 g) rolled oats (aka. old-fashioned)
¼ cup (about 30 g) sliced or slivered almonds, chopped pecans, or chopped walnuts

Apple filling:
2 tbsp (30 ml) water, plant-based butter, coconut oil, or other oil
4 medium apples, chopped small to medium dice
1 ½ tbsp (22.5 ml) date puree* or coconut sugar; or 1 tbsp brown sugar or maple syrup
½ tsp (2.5 ml) ground cinnamon

Directions for entirely WFPB version:

1. Raw crumble: pulse ingredients together in a food processor until coarsely ground. Don't process too finely, it's better to be a bit too coarse. Set aside.
2. Apple filling: heat a nonstick skillet on the stove over medium heat, add chopped apples, date puree*, cinnamon and water; stir to combine. Then, cover and cook, adding more water as needed to prevent burning or sticking, and stirring regularly about 5 minutes. Apples should be tender, but not mushy.
3. To serve, divide apple mixture between 4 (or more) dishes and top with the raw crumble. Enjoy!

Directions for predominantly WFPB version:

1. Cooked crumble topping: heat plant-based butter, coconut oil, or other oil in a skillet and then add sugar or maple syrup, stirring until dissolved and bubbling. Stir in vanilla, cinnamon, and salt (optional), followed quickly by oats and nuts. Cook while stirring until ingredients are toasted and fragrant, about 4-5 minutes. Beware, this burns easily! Transfer to a sheet pan lined with parchment paper and allow to cool. Crumble to desired size when cool.
2. Apple filling: heat a skillet over medium heat, add water or oil of your choice, apples, sweetener of your choice, and cinnamon; stir to combine. Cover and cook, stirring regularly, until apples are tender but not mushy—about 3-5 minutes. Add a tbsp of water if the mixture sticks before apples reach desired degree of doneness.
3. To serve, divide apple mixture between 4 (or more) dishes and top with the cooked crumble topping. Enjoy!

Makes: 4 standard-sized servings

Apple Crumble without an Oven (continued)

Notes:

- *Date puree is made by processing pitted dates, adding just enough boiling water to allow mixture to become a smooth paste. You will need to make a larger batch than is needed for this recipe and freeze it. It is scoopable in frozen form due to the high sugar content, so there's no need to thaw before using.
- Dessert is gluten-free if using gluten-free oats.

Nutritional Info for entirely WFPB version (raw crumble, apple filling made with water and dates): Calories 320, Total Fat 15g, Saturated Fat 1.4g, Cholesterol 0mg, Sodium 100mg, Total Carbohydrate 49.4g, Dietary Fiber 7.8g, Sugars 38.3g, Protein 4.4g, Vitamin A 1%, Vitamin C 14%, Calcium 5%, Iron 6%

Nutritional Info for predominantly WFPB version (cooked crumble, apple filling made with oil and maple syrup): Calories 348, Total Fat 14.3g, Saturated Fat 2.2g, Cholesterol 0mg, Sodium 100mg, Total Carbohydrate 47.1g, Dietary Fiber 6g, Sugars 30.1g, Protein 2.4g, Vitamin A 0%, Vitamin C 14%, Calcium 3%, Iron 5%

How to Temper Chocolate

Any time you see glossy chocolates on display, or when you unwrap a bar of chocolate, the chocolate that you're looking at has been tempered. If you just melt chocolate and use it for dipping or making chocolate bars, it will have a dull color and may have white spots or streaks on it when it cools. This is called "blooming." It will also be more brittle and less melt-in-your-mouth.

Below, I have included a labor-intensive method of tempering chocolate (*How to Temper Chocolate: Professional Method*) as well as a work-around (*How to "Temper" Chocolate: Quick Method)* that will generally give you somewhat glossy chocolates without all of the work (though they do take *much* longer to harden). The other alternative to tempering is to dip things in melted chocolate and then roll them in another topping, like cocoa powder or chopped nuts, or drizzle with white chocolate to hide your non-glossy, spotty chocolate.

How to Temper Chocolate: Professional Method

	Dark Chocolate	**Milk or White Chocolate**
Melting	**122-131°F (50-55°C)**	**113-122°F (45-50°C)**
Tempering	**80-84°F (27-29°C)**	**78 – 82°F (26-28°C)**
Rewarming	**86-89°F (30-32°C)**	**84-86°F (29-30°C)**

Melting: Chop the chocolate into small pieces and place in a metal bowl set over a hot water bath (or place in glass bowl and microwave for 15 second intervals, stirring in between), reserving a few pieces for seeding in the next step. As the chocolate warms, stir constantly. If the chocolate gets overheated on the bottom, it will separate into brown chunks and oil. Heat until the chocolate reaches the melting temperature.

Tempering: Once the chocolate has reached the correct temperature for melting on the chart above, remove from the water bath. Add a few bits of the reserved chocolate and stir until completely melted. Repeat until the chocolate has come down to the correct tempering temperature. This is called seeding.

Rewarming: Stirring constantly, briefly rewarm the chocolate over the water bath until the chocolate has reached the correct rewarming temperature.

Notes:

- Don't let even one drop of water get into your tempered chocolate, it will ruin the temper permanently. Because you're working with a water bath, keep a towel handy to wipe the bottom of the bowl when you remove it from the steaming water.
- If your chocolate gets outside of the temperature range on any of the steps, you'll need to start over. (You can usually use the same chocolate when you start over will good results.)

How to "Temper" Chocolate: Quick Method

Ingredients:
1 pound (450 g) of dark chocolate, chopped into 1-inch or smaller pieces
2 ½ tbsp (37.5 ml) refined, filtered coconut oil*

Instructions:
1. Place chopped chocolate and coconut oil in a metal bowl set over a hot water bath (or place in glass bowl and microwave for 15 second intervals, stirring in between). As the chocolate warms, stir constantly. If the chocolate gets overheated on the bottom, it will separate into brown chunks and oil. Warm until completely melted. Remove from heat and use for dipping.

Notes:

- You can use any coconut oil, but the refined, filtered types have the least coconut flavor. If you want the chocolate to taste like coconut, then use unrefined.
- You can omit the oil, but there will be less shine and more white spots on the chocolate. If doing this, cover the chocolate to hide the appearance—cocoa powder, chopped nuts, or freeze-dried fruit blended to a powder work well for this.

Servings: This is enough chocolate to dip 1 to 1 ½ pounds (450 to 675 g) of strawberries, truffles, or other bite-sized candies.

Nutritional Info (per serving, 1 ounce [30 g] of dark chocolate): Calories 136, Total Fat 8.5g, Saturated Fat 5g, Cholesterol 0mg, Sodium 3.1mg, Total Carbohydrate 18.1g, Dietary Fiber 1.7g, Sugars 15.5g, Protein 1.2g, Vitamin A 0%, Vitamin C 0%, Calcium 1%, Iron 5%

Chocolate-dipped Strawberries & Dried Fruit

Just chocolate and fruit—the quintessential healthy dessert—romantic and delicious, too!

Ingredients:
1 pint (0.5 L) strawberries, washed and thoroughly dried
8 ounces (225 g) dried fruit (e.g. apricots, mangos, dates, figs, etc.)
1 pound (450 g) of tempered dark chocolate*

Instructions:

1. Line a sheet pan with parchment paper, wax paper, or foil.
2. Dip fruit ½ to 2/3 the way in chocolate, leaving some of the fruit exposed for visual appeal. Set on your sheet pan. Let sit in a cool, dry room until completely firm. Remove from pan and store in an airtight container in a room that is 70°F (21°C) or cooler.

Notes:

- *You can use the quick "temper" method as well, but they may be streaked and will take much longer to harden than properly tempered chocolate.
- Make sure there is not even one drop of water on the strawberries or it will ruin the temper of your chocolate.
- You can dip almost anything in chocolate. Try dried and fresh fruit, nuts, or not healthy but definitely delicious, pretzels, crackers, cookies, etc.

Servings: 20

Nutritional Info (per serving): Calories 142, Total Fat 6.9g, Saturated Fat 4g, Cholesterol 0mg, Sodium 3.8mg, Total Carbohydrate 23g, Dietary Fiber 2.5g, Sugars 19.3g, Protein 1.5g, Vitamin A 2%, Vitamin C 18%, Calcium 2%, Iron 6%

How to Make Tasty, Healthy Substitutions: Banana Bread (or Muffins)

Tips for adjusting traditional quick bread recipes that retain (almost all of) the deliciousness:

- ***Cut back sugar:***
  - You can generally cut back by 25% without many people noticing.
  - While you may be tempted to switch liquid sugars for dry sugars, avoid the temptation unless you're a seasoned baker and have done your research. These affect baking very differently from each other in recipes and different sweeteners vary in their level of sweetness.
- ***Swap out butter or cut back oil:***
  - Cut back fat by half. Replace ½ fat with unsweetened applesauce, use slightly less applesauce (80-85%) by volume than the fat you're replacing.
    - For example, if a recipe calls for 1 cup (240 ml) oil or butter, and you plan to replace ½ cup (120 ml) of this with unsweetened applesauce, use $^1/_3$ cup plus 1 tbsp (100 ml) applesauce. Otherwise, the mixture will have too much liquid.
  - To substitute oil for butter, multiply the amount of butter volume by 0.8 (butter contains ~20% water) and add a small amount of liquid to the batter (to make up the remaining volume of replaced butter).
    - For example: to replace 1 cup (240 ml) of butter with oil, use ¾ cup plus 2 tbsp (190 ml) oil and add 2 tbsp (30 ml) liquid to the recipe.
- ***Swap whole grain for white flour***
  - If using a mild tasting whole wheat flour, such as whole wheat pastry flour or white whole wheat flour, you can generally substitute half of the white flour without anyone noticing.
  - When substituting whole grain for white flours, reduce whole grain flour volume by 1 tbsp per cup (15 ml per 240 ml volume measure or multiply original weight in grams by 0.9375 to get new weight). For example, when substituting 1 cup (240 ml) of whole wheat pastry flour for all-purpose flour, use 1 cup minus 1 tbsp (225 ml).
  - You may want to increase the leavening slightly when replacing white flour with whole grain flour—especially if you are also replacing eggs, as below. Use ¼ to ½ tsp (1.25 to 2.5 ml) additional baking powder per cup (240 ml) of whole grain flour replaced.
- ***Replace egg(s):***
  - 1 flax egg is meant to replace 1 medium or large chicken egg in a recipe. Flax eggs are made by adding 1 tbsp (15 ml) ground flaxseed meal to a measuring cup and filling with very hot or boiling water for a total volume of 1.5 ounces (45 ml).
  - Flax eggs can generally only be used in baking. They do not work as well in raw preparations and don't whip up like egg whites. They mainly fulfill the binding and fat/moistening functions of eggs, but don't fulfil the rising function. When replacing more than 1-2 eggs in a recipe, you should replace only 1-2 of the eggs with flax eggs. If you want to replace more than 2 eggs in a recipe, replace the remaining eggs with Egg Replacer (can be purchased at health food stores) or just increase the leavening agents and liquid agents a bit.
- ***Adjusting salt:***
  - Baked goods need salt to taste good—don't leave it out. However, you can generally get by with ½-¾ tsp (1.25-2.5 ml) salt per loaf of quick bread or batch of 12 muffins.
  - Cut back on salt slightly if increasing leavening for reasons mentioned above. Otherwise, the final dish will be too salty.

Banana Bread (or Muffins): Ingredients before & after adjustments

This recipe is given as an example of how to make healthier adjustments to baked good recipes that don't negatively impact taste in any significant way. This does not mean that the adjusted recipe is healthy, just that it is *healthier*. Making further changes—including those needed to get this to be fully aligned with an entirely WFPB diet will change the texture and taste. From a culinary and enjoyment perspective, it is better to use the *Dessert Flip* here than to make it a truly healthy dish.

How to Make Tasty, Healthy Substitutions: Banana Bread (or Muffins) (continued)

Original Ingredients:
2 cups (480 ml or about 240 g) all-purpose flour
1 tsp (5 ml) baking soda
1 tsp (5 ml) baking powder
1 tsp (5 ml) salt
1 tsp (5 ml) cinnamon
2 large eggs
½ cup (100 g) sugar
½ cup (110 g) brown sugar
4 very ripe bananas
1 tsp (5 ml) vanilla
½ cup (120 ml) vegetable or canola oil
¾ cup (90 g) chopped walnuts, optional

Adjusted Ingredients:
1 cup minus 1 tbsp (225 ml, about 105 g) whole wheat pastry flour
1 cup (240 ml, about 120 g) all-purpose flour
1 tsp (5 ml) baking soda
1 ¼ tsp (6.25 ml) baking powder
¾ tsp (3.75 ml) salt
1 tsp (5 ml) cinnamon
2 flax eggs
½ cup (100 g) sugar
¼ cup (55 g) brown sugar
4 very ripe bananas
1 tsp (5 ml) vanilla
3 tbsp + 1 tsp (50 ml) unsweetened apple sauce
¼ cup (60 ml) vegetable or canola oil
¾ cup (90 g) chopped walnuts, optional

Instructions:
1. Preheat oven to 350°F (175°C). Spray a 9 x 5-inch (23 x 13-cm) or 2-lb (1-kg) loaf pan with nonstick spray (or wipe with oil) then line bottom with parchment paper.
2. Whisk together flours, baking soda, baking powder, salt, and cinnamon.
3. Whisk together flax eggs and sugars well so that the sugar starts to dissolve. Whisk in remaining wet ingredients (i.e., bananas, vanilla, oil, and applesauce).
4. Stir nuts, if using, into dry ingredients. Then, fold wet into dry ingredients just until mixed.
5. Pour batter into loaf pan and bake on middle rack for 1 hour to 1 hour 10 minutes or until very brown, but not burnt and toothpick inserted into center comes back clean (crumbs are OK, just not liquid batter).
6. Cool for at least 1 hour on a rack before cutting and serving. (You can cut it sooner, but it will be more difficult to cut without crumbling).

Notes:
- For muffins: Line a 12-cup muffin tin with paper liner and then spray liners with non-stick spray. Increase heat to 375°F (190°C). Bake for 20-25 minutes before testing; return to oven, if needed, and bake until toothpick inserted comes out clean or with only crumbs adhering.

Makes: 12 slices or muffins

How to Make Tasty, Healthy Substitutions: Banana Bread (or Muffins) (continued)

Nutritional Info (per 1/12 loaf; adjusted recipe w/o nuts): Calories 202, Total Fat 5.4g, Saturated Fat 0.5g, Cholesterol 0mg, Sodium 253mg, Total Carbohydrate 36.8g, Dietary Fiber 1.9g, Sugars 16.6g, Protein 2.7g, Vitamin A 0%, Vitamin C 6%, Calcium 3%, Iron 7%

Nutritional Info (per 1/12 loaf; original recipe w/o nuts): Calories 270, Total Fat 10.4g, Saturated Fat 1g, Cholesterol 31mg, Sodium 342mg, Total Carbohydrate 41g, Dietary Fiber 1.7g, Sugars 19g, Protein 4g, Vitamin A 1%, Vitamin C 6%, Calcium 3%, Iron 8%

Chia Pudding:

Chocolate, Cinnamon, Mexican Chocolate, and Vanilla Variations

This dessert is so satisfying and delicious you'd never guess it was packed with Omega-3's and takes only minutes to prepare—it's even healthy enough to stand in for breakfast! This is also a great option for batch prepping because you can freeze it. Just make sure to thaw in the refrigerator overnight before eating; add nuts right before serving.

Ingredients:

¼ cup (30 g) cocoa powder ("Dutch" style which is processed with alkali is best), optional
½ cup (80 g) chia seeds
1 ½ cups (360 ml) unsweetened plant-based milk or a 14-ounce (400 g) can lite coconut milk
3-5 tbsp (45-75 ml) maple syrup or date paste thinned to syrup consistency
½-1 tsp (2.5-5 ml) vanilla extract
Pinch of salt, optional
¼-½ tsp (1.25-2.5 ml) cinnamon, optional

Optional toppings:

Unsweetened Coconut Flakes
Diced mango, banana, pineapple, or stone fruit
Fresh berries
Toasted sliced almond or roasted chopped nuts

Directions:

Chocolate & Mexican Chocolate Variations: Begin by sifting cocoa powder into a mixing bowl, then stir in chia seeds. Whisk in just enough milk to make a paste, then whisk in 3 tbsp (45 ml) maple syrup or date syrup, ½ tsp (2.5 ml) vanilla extract, and salt (optional); (add ½ tsp [2.5 ml] cinnamon for Mexican chocolate version). Whisk in the remaining milk. Taste and add more maple syrup or vanilla, to taste, as needed. Divide into 4 small jars, leaving room at the top for toppings later on.

Vanilla & Cinnamon Variations: Place chia seeds in a mixing bowl, then whisk in 3 tbsp (45 ml) maple or date syrup, 1 tsp (5 ml) vanilla extract, and salt (optional); (add ¼ to ½ tsp [1.25 to 2.5 ml] cinnamon for cinnamon version). Whisk in milk. Taste and add more maple syrup or cinnamon, to taste, as needed. Divide into 4 small jars, leaving room at the top for toppings later on.

After preparing the version of your choice, transfer jars (with lids, if you have them) to the refrigerator to chill overnight (but at least 4 hours). Whisking after 45 minutes in the refrigerator can help prevent chia seeds from clumping together but isn't a required step. Keeps refrigerated up to 5 days.

To serve: top with fruit or nuts of your choice.

Makes: 4 servings

Nutritional Info (Varies; example chocolate version made with soymilk, 3 tbsp [45 ml] maple syrup, topped with raspberries, mangos, sliced almonds, coconut flakes): Calories 302, Total Fat 13.5g, Saturated Fat 2.3g, Cholesterol 0mg, Sodium 80mg, Total Carbohydrate 37.6g, Dietary Fiber 14.6g, Sugars 18g, Protein 10g, Vitamin A 2%, Vitamin C 39%, Calcium 32%, Iron 20%

Nutritional Info (Vanilla version made with soymilk, 3 tbsp [45 ml] maple syrup, without toppings): Calories 211, Total Fat 9.5g, Saturated Fat 1g, Cholesterol 0mg, Sodium 80mg, Total Carbohydrate 22.6g, Dietary Fiber 9.3g, Sugars 9.6g, Protein 7g, Vitamin A 0%, Vitamin C 1%, Calcium 29%, Iron 13%

Chocolate Silk Pie

A question that always gets asked in class is, "what do you use silken tofu for?". Well, this is one super delicious, decadent way to use it! No one that eats this will suspect it was made with tofu. To highlight the *Dessert Flip,* serve very thin slices of this pie with a pile of fresh berries.

Ingredients:
Crust:
1 cup (175 g) pitted dates, packed
1 ½ cups (190 g) toasted walnuts or almonds
1/3 cup (40 g) Dutch cocoa powder

Pie filling:
2 12-oz. packages (680 g total) firm silken tofu
¼ cup (60 ml) maple syrup
2 tsp (10 ml) pure vanilla extract
Pinch of salt, optional
2 ½ cups (440 g) dark chocolate chips or chunks, melted

Topping (optional):
1 14.5-ounce (400 g) can full-fat coconut milk or coconut cream, refrigerated overnight
½ tsp (2.5 ml) pure vanilla extract
Powdered sugar, to taste (generally, a couple tablespoons) or agave syrup
Fresh berries or chocolate shavings, optional

Instructions:

1. Add dates to a mixing bowl and cover with hot water; soak 10 minutes. Then, drain and set aside.
2. Crust: To make crust, pulse nuts and cocoa powder in a food processor until the mixture resembles a meal; remove from processor. Next, add drained dates and pulse until this resembles a slightly chunky paste. Add back in nut mixture and pulse just to combine. Dump mixture into an oiled 9- or 10-inch (23- or 25-cm) springform pan or 12-inch (30-cm) tart pan, cover with plastic and press to cover the bottom of pan and first 1 ½ inches (3.75 cm) of springform pan or entire height of the edge of the tart pan. Refrigerate while prepare the pie filling.
3. Filling: To make the filling, add tofu, maple syrup, vanilla extract, and salt (optional) to a blender and blend until completely smooth. Meanwhile, add chocolate to a glass mixing bowl and melt in the microwave by heating for 15 second increments then stirring repeatedly until chocolate is completely melted and warm to the touch. Pour chocolate into blender while running on low to combine then increase speed to whip and incorporate a little air which will lighten the mousse. Pour filling into prepared crust and refrigerate overnight.
4. Topping: Open can of coconut milk or cream and scrape solid portion of contents into a mixing bowl. If using coconut cream, use only 1/3 to ½ the can. Add vanilla extract and a couple tablespoons of powdered sugar or agave syrup and whip with hand mixer, stand mixer, or whisk until it resembles whipped cream. Adjust sweetness with more sugar as desired. Refrigerate if not using immediately.
5. Assembly: Remove pie from refrigerator and spread on or decorate with whipped coconut cream topping. Top with fresh berries or chocolate shavings as desired. Serve or refrigerate until serving.

Notes:

- The coconut topping can weep, so it's best to add this to the pie just before serving. Alternatively, you can omit the whipped topping altogether for a more healthful dessert (with a lot fewer calories and less saturated fat).
- Pie crust can be made ahead and frozen. Alternatively, you can use a prepare chocolate wafer or graham cracker crust OR another nut-based crust with equally delicious results.

Chocolate Silk Pie (continued)

Servings: 16-20 *Dessert Flip* servings

Nutritional Info (per 1/16 pie with coconut topping and ¼ cup fresh berries): Calories 366, Total Fat 23g, Saturated Fat 10.5g, Cholesterol 0mg, Sodium 30mg, Total Carbohydrate 35g, Dietary Fiber 6.5g, Sugars 23.6g, Protein 7.7g, Vitamin A 0%, Vitamin C 14%, Calcium 7%, Iron 19%

Nutritional Info (per 1/16 pie with ¼ cup [25 g] fresh berries, but without coconut topping): Calories 324, Total Fat 19.5g, Saturated Fat 7.1g, Cholesterol 0mg, Sodium 30mg, Total Carbohydrate 33g, Dietary Fiber 6.3g, Sugars 22.6g, Protein 7.3g, Vitamin A 0%, Vitamin C 14%, Calcium 6%, Iron 17%

Fresh Fruit Salad with Mint

This is the simplest, yet one of the most satisfying (and healthy!) desserts you can have on a summer's day.

Ingredients:
2 pounds (900 g) chopped fresh fruit (pineapple, peaches, plums, nectarines, melon, or sectioned citrus wedges are good choices, choose one or mix and match)
2-3 tbsp (30-45 ml) or small handful of chiffonade of fresh mint
Juice of 1 lime or ½ a lemon

Instructions:
1. Stir together all ingredients and serve immediately.

Makes: 6 servings

Nutritional Info (per serving, approximate based on using honeydew and cantaloupe): Calories 72, Total Fat 0g, Saturated Fat 0g, Cholesterol 0mg, Sodium 30mg, Total Carbohydrate 18.6g, Dietary Fiber 1.6g, Sugars 14.7g, Protein 1.3g, Vitamin A 8%, Vitamin C 94%, Calcium 2%, Iron 2%

Tropical Fruit Salad with Lime Yogurt Sauce

This fruit salad has a decidedly tropical twist and is the perfect end to a meal on a hot summer day or in cold winter months when you're dreaming of warm weather.

Sauce Ingredients:
1 cup (240 ml or 245 g) unsweetened plant-based yogurt*
1-2 tbsp (15-30 ml) date puree, maple syrup, agave syrup, or honey
1 ½ tsp (7.5 ml) grated lime zest

Fruit:
1 small pineapple or 2 mangoes, medium dice
1 large apple with peel, medium dice
2 oranges, sectioned
3 kiwifruits, peeled and sliced
1 large banana, peeled and sliced

Optional toppings:
Scant ¼ cup (25 g) unsweetened coconut flakes
Scant ¼ cup (30 g) toasted sliced almonds or roasted chopped nuts

Instructions:
1. Sauce: stir together yogurt, 1 tbsp (15 ml) sweetener, and lime zest; taste and add more sweetener, to taste, if needed.
2. Fruit: combine all fruit in a serving bowl.
3. Serve: either stir together sauce and fruit or portion fruit into bowls and drizzle sauce over the top. Top with a generous teaspoon each of coconut flakes and nuts.

Makes: 8 servings

Nutritional Info (per serving): Calories 137, Total Fat 4.4g, Saturated Fat 1.6g, Cholesterol 0mg, Sodium 3.4mg, Total Carbohydrate 25.2g, Dietary Fiber 3.8g, Sugars 16g, Protein 2.2g, Vitamin A 0%, Vitamin C 95%, Calcium 4%*, Iron 3%

*Plant-based yogurt used in creating nutrition information had no added calcium. Calcium content will be higher if choosing an option with added calcium.

Grilled Peaches (or Seasonal Fruit)

Grilled fruit is a wonderfully surprising dessert and is especially good served with a bit of plant-based ice cream. This works best with a charcoal or gas grill with a lid but can be done on an electric grill or even in a skillet in a pinch. It is included as an oven-free alternative for teaching kitchens without an oven. Remember, when grilling fruit, patience is key—don't rush the process and you'll be rewarded with a delicious and healthy dessert.

Ingredients:
6 medium-sized peaches, halved and pitted (or substitute a similar amount of other fruit)
2 tbsp (30 ml) plant-based butter, coconut oil, or neutral-flavored oil (optional)
1 ½ tbsp (22.5 ml) brown sugar or maple syrup (optional)

Charcoal or Gas Grill Instructions:

1. If using a charcoal grill, wait until after cooking other items when the charcoal is mostly embers, but the grill is still hot enough to heat the grate (fruit will stick to a too-cool grate). If using a gas grill, turn flame to medium.
2. You can prepare the fruit in one of two ways, (1) wipe grate thoroughly with oil, then place fruit on the grill, or (2) heat butter and sugar in a skillet until bubbling, remove from heat, then brush fruit with the mixture.
3. Place fruit onto grill grate and close the lid. Grill for 5-8 minutes per side, longer is you have a cooler grill. The goal is to cook the fruit so it is neither so done that it's mushy, but is done enough than it is no longer crisp. If using method 1, you should have grill marks only. If using method 2, you should have caramelized bits of sugar clinging to the outside of the fruit.
4. Serve warm.

Electric Grill Instructions:
Same as above or charcoal or gas but cook on medium-high heat. If using a nonstick electric grill, you can just place fruit directly onto the grate and cook. If you have a metal mixing bowl that you can use to cover the fruit and contain some of the steam released, this will help the fruit to cook through. If left uncovered, you can achieve good grill marks, but fruit won't develop the same melt-in-your-mouth quality that can be achieved in a covered grill.

Skillet Instructions:

1. In a large nonstick skillet over medium heat, melt butter or heat oil and stir in brown sugar. (You can substitute water, fruit juice, or liqueur for the oil, but the end result will have a somewhat different texture and you may need to add more liquid during cooking to prevent burning.)
2. Place the fruit in a single layer in the pan. You may need to divide the oil/sugar mixture and fruit between 2 pans to make all of the fruit fit.
3. Cook over medium heat until heated through and there are bits of caramelized sugar on the outside, about 5-8 minutes. The goal is to cook the fruit through, so it is neither so done that it's mushy, but is done enough than it is no longer crisp.
4. Serve warm.

Makes: 6 servings

Notes:

- This dessert is delicious served:
    - Drizzled with good, aged, balsamic vinegar and sprinkled with freshly ground black pepper.
    - Yogurt sauce made of plant-based yogurt sweetened slightly with honey. Lay peaches on a serving platter, drizzle with the sauce and sprinkle with either cinnamon or freshly ground black pepper.
    - A small scoop of plant-based vanilla ice cream, sprinkling the dessert with either cinnamon or freshly ground black pepper. (This is the *Dessert Flip* option.)

Grilled Peaches (or Seasonal Fruit) (continued)

- Substitute nearly any other fruit. If you are using small fruit, like cherries, over a charcoal or gas grill, use a grill basket and brush either the fruit or the basket with oil. Omit the sugar/butter step.
- Vanilla extract, rum, or bourbon added to the butter sauce are great additions.

Nutritional Info for grilled peaches alone (no added fat or sugar): Calories 59, Total Fat 0.5g, Saturated Fat 0g, Cholesterol 0mg, Sodium 0mg, Total Carbohydrate 14.3g, Dietary Fiber 2.3g, Sugars 12.6g, Protein 1.4g, Vitamin A 2%, Vitamin C 17%, Calcium 1%, Iron 2%

Nutritional Info for grilled peaches with coconut oil and sugar: Calories 100, Total Fat 4.3g, Saturated Fat 3.3g, Cholesterol 0mg, Sodium 0mg, Total Carbohydrate 15.8g, Dietary Fiber 2.3g, Sugars 14g, Protein 1.4g, Vitamin A 2%, Vitamin C 17%, Calcium 1%, Iron 2%

Dark Chocolate with Fruit & Nuts

When asked what dessert they order in a restaurant, a guru of epidemiology replied quickly, "dark chocolate, fruit, and nuts." They sometimes even carried a card with them explaining this so they could provide it at restaurants when traveling. Here is an example of what this would include.

Ingredients:
½ oz (15 g) dark chocolate (ideally 70% cacao or greater)
½ oz (15 g) nuts (roasted or raw)
1 serving fresh or dried fruit (single type or mixed varieties)

Instructions:
Arrange attractively on a plate and serve.

Makes: 1 serving

Nutritional Info (Varies; example: 75% dark chocolate, almonds, dried apricots): Calories 242, Total Fat 13.7g, Saturated Fat 4.1g, Cholesterol 0mg, Sodium 6mg, Total Carbohydrate 28.3g, Dietary Fiber 5.3g, Sugars 20g, Protein 5g, Vitamin A 4%, Vitamin C 1%, Calcium 6%, Iron 17%

Handouts

Lifestyle Nutrition

The American College of Lifestyle Medicine recommends an eating plan based largely on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds. Eating whole plant foods is a great way to get in more nutrition with less harm and is one of the best ways to prevent, treat and even reverse many chronic diseases.

Eat Plenty

- Vegetables
- Mushrooms
- Fruits
- Legumes
- Whole Grains
- Nuts
- Seeds

Limit/Avoid

- Sugary drinks like soda, juice cocktails, coffee and energy drinks
- Processed meats like sausage, bacon, salami, bologna, deli meat
- Processed snacks like crackers, chips, pretzels
- Cakes, pastries, sweets
- Dairy (especially high-fat types with added salt and sugar)
- Red meats
- Poultry
- Eggs

Food for Thought

Eating Inspiration:

Vegetables: Leafy vegetables (kale, spinach, romaine, swiss chard, collard greens, cabbage), garlic, onions, peppers (all kinds), leeks, parsnips, potatoes (all kinds), radishes, turnips, squash, green beans, tomatoes, carrots, corn, peas, cauliflower, broccoli, cucumbers, eggplant, mushrooms

Fruits: Bananas, apples, kiwi, oranges, blackberries, strawberries, raspberries, blueberries, mango, cantaloupe, watermelon, honeydew, plums, pineapple

Legumes: Black beans, kidney beans, pinto beans, garbanzo beans, cannellini beans, lentils, lima beans, broad beans, soybeans

Whole Grains: Quinoa, brown rice, oats, barley, wild rice, black rice, whole grain tortillas/pasta/breads, couscous, teff, wheat germ

Nuts: Almonds, peanuts, pistachios, cashews, brazil nuts, soy nuts, hazelnuts, walnuts

Seeds: Chia seed, flax seed, hemp seed, pumpkin seed, sunflower seed

Nutrition Goals

Setting goals to improve your eating habits is a great way to eat healthier. An example of a positive nutrition goal is, "I will add 1 cup of berries to breakfast and a small apple or orange as an afternoon snack at least five days this week."

Specific - What specific food would you like to add/change?

Measurable - How much or how many will you add or change?

Attainable - Do you have what it takes to follow through?

Realistic - What can you do? (improvement over perfection)

Time-Connected - How often or for how long will you make this change?

Helpful resources:

Academy of Nutrition and Dietetics:
www.eatright.org

vegetariannutrition.net

American Heart Association:
www.heart.org

American Diabetes Association:
www.diabetes.org

American Institute for Cancer Research
www.aicr.org/reduce-your-cancer-risk/diet/

Nutrition Facts
www.nutritionfacts.org

AMERICAN COLLEGE OF Lifestyle Medicine

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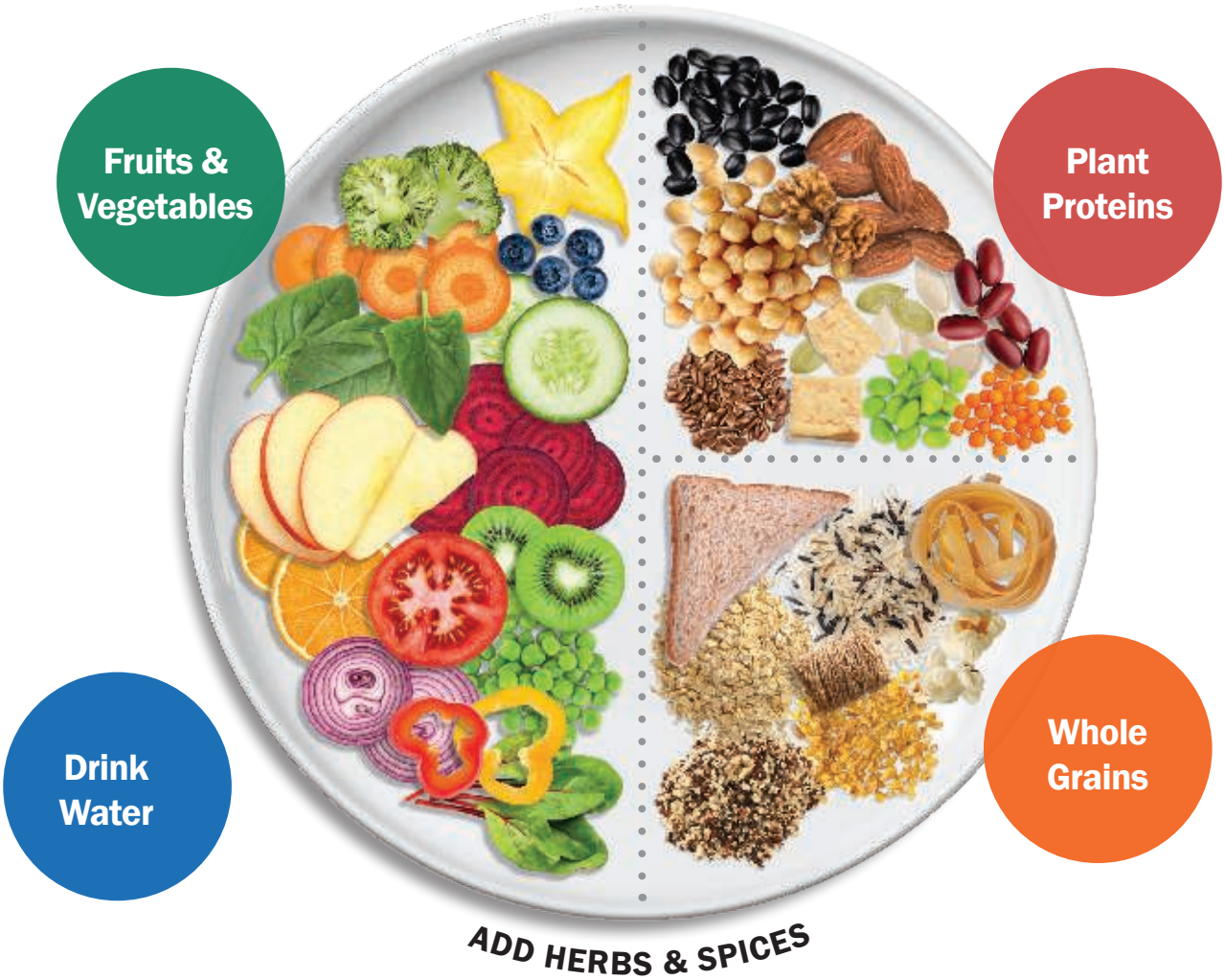
A WHOLE FOOD, PLANT-BASED PLATE

Nutrition Prescription for Treating & Reversing Chronic Disease

The American College of Lifestyle Medicine Dietary Lifestyle Position Statement for Treatment and Potential Reversal of Disease: ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.



Include a wide array of fiber-filled, nutrient-dense, and antioxidant-rich whole plant foods at every meal. Use a variety of herbs and spices to enhance flavors.

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- **Focus on whole fruits and vegetables and eat a rainbow of color.**

Vegetables: Dark leafy greens (spinach, kale, arugula, etc.), broccoli, squash, zucchini, carrots, tomatoes, beets, peppers, mushrooms, onions, celery, cauliflower, cucumbers, white & sweet potatoes, green peas, cabbage, whole plant fats (avocados, olives), and more.

Fruits: Apples, bananas, grapes, citrus fruit, berries, peaches, pears, pineapple, kiwi, plums, watermelon, starfruit, mangoes, just to name a few.

- **Drink water for hydration.**

- **Eat a variety of plant protein.**

Legumes: Peas and beans, including kidney beans, pinto beans, white beans, black beans, lima beans, black-eyed peas, garbanzo beans (chickpeas), split peas and lentils, edamame, tofu.

Nuts and seeds: Almonds, pistachios, walnuts, pecans, nut butters, pumpkin/sunflower/chia/flax seeds, and more.

- **Choose whole grains.**

Amaranth, barley, brown rice, buckwheat, bulgur, millet, popcorn, rye, quinoa, whole oats, whole grain bread/tortillas/cereals/flours, to name a few.

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TIPS TO GET YOU STARTED ON A WHOLE FOOD, PLANT-BASED DIET

Take your journey to a healthy lifestyle step-by-step.

- **STEP 1: Enjoy** – Keep plant-based meals you already enjoy in your meal rotation.
- **STEP 2: Adapt** – Give your favorite recipes a plant-based makeover.
- **STEP 3: Explore** – Begin incorporating new plant-based foods into each week.

Plan ahead.

- Use meal planning apps or a simple calendar to plan meals in advance.
- Set aside time to batch prepare ingredients so meals can be thrown together quickly on busy weeknights. Pre-chop vegetables and cook large portions of grains and beans.

Make the 'healthy choice' the easy choice.

- Keep fresh produce in a bowl on the counter and at eye-level in the fridge so it is the first thing you reach for when wanting a snack.
- Stock your pantry with staple ingredients that can be assembled into a quick meal.

Work with a Registered Dietitian to assist in transitioning to a 100% plant-based dietary lifestyle, the health-protecting, disease-fighting prescription.

Game plan for eating away from home and traveling.

- Check menus ahead of time. Pair side dishes together to create a hearty meal.
- Ask if the kitchen is willing to make a dish with vegetables, beans and whole grains.
- When traveling, pack your own meals or stop at grocery stores instead of fast food.

Include the entire family.

- Allow children to pick a new fruit or vegetable to try each week.
- Start a tomato plant on the porch and have children water and take care of it.
- Assign age-appropriate kitchen tasks to everyone in the family.

Set goals each week on your journey to improved nutrition.

- Identify specific, measurable and attainable steps you can take each week. Instead of "eat more vegetables," set a SMART goal to "make half your dinner plate vegetables five nights this week."
- Celebrate success each and every step of the way!

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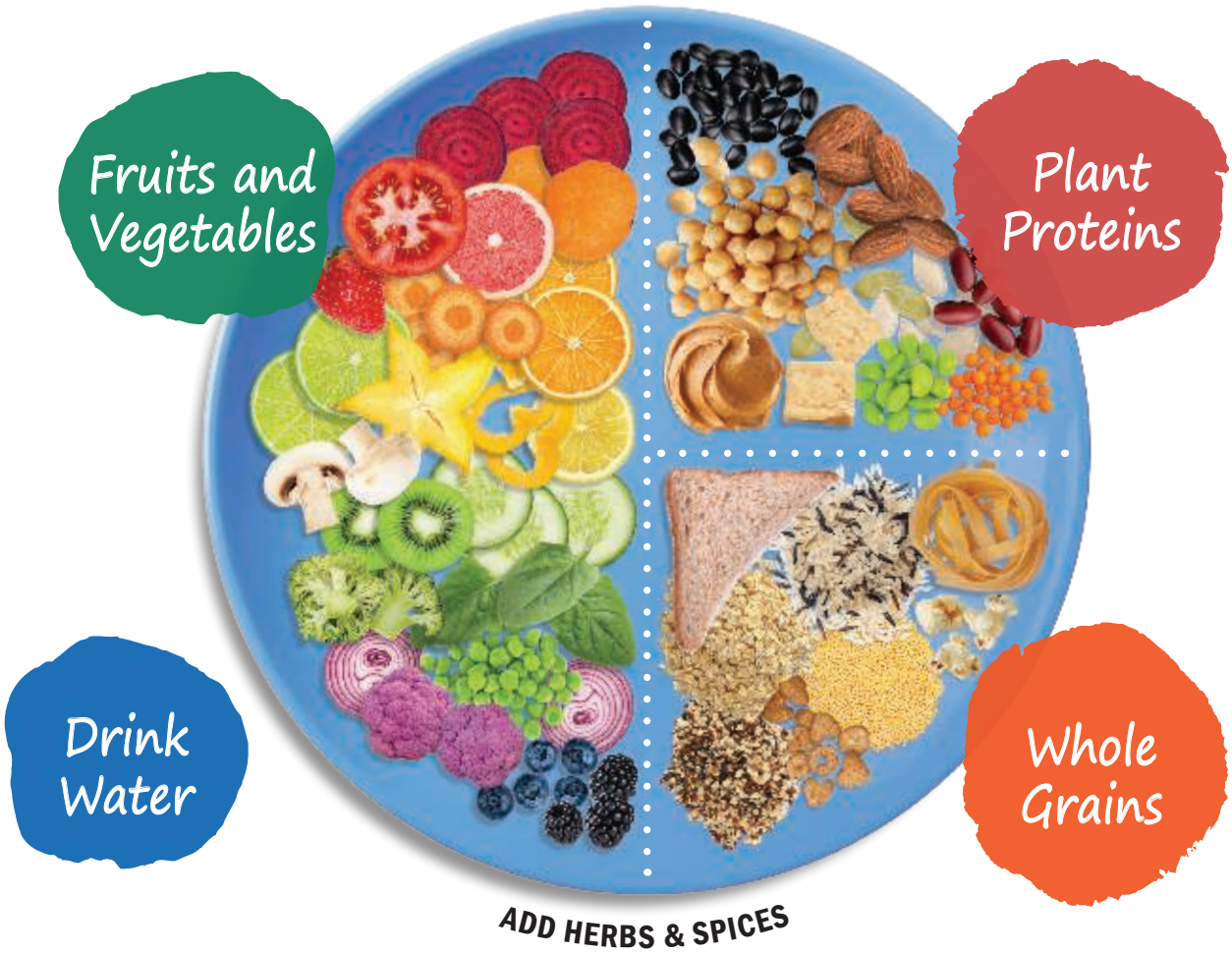
A Whole Food, Plant-Based Plate for Children, Tweens and Teens
Healthy Beginnings for a Lifetime of Health

Eating a whole food, plant-based diet early in life will help your child develop healthy habits that can help them lead a lifetime of health. **The American College of Lifestyle Medicine (ACLM)** recommends that you serve up a minimally processed eating plan that is predominantly fruits, vegetables, whole grains, legumes, nuts and seeds.



Include a wide array of fiber-filled, nutrient-dense, antioxidant-rich whole plant foods at every meal. Use herbs and spices as flavor enhancers.

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- **Focus on whole fruits and vegetables and eat a rainbow of color.**

Vegetables: Dark leafy greens (spinach, kale, arugula, etc.), broccoli, squash, zucchini, carrots, tomatoes, beets, peppers, mushrooms, onions, celery, cauliflower, cucumbers, white & sweet potatoes, green peas, cabbage, whole plant fats (avocados, olives), and more.

Fruits: Apples, bananas, grapes, citrus fruit, berries, peaches, pears, pineapple, kiwi, plums, watermelon, starfruit, mangoes, just to name a few.

- **Drink water for hydration.**

- **Eat a variety of plant protein.**

Legumes: Peas and beans, including kidney beans, pinto beans, white beans, black beans, lima beans, black-eyed peas, garbanzo beans (chickpeas), split peas and lentils, edamame, tofu.

Nuts and seeds: Almonds, pistachios, walnuts, nut butters, pumpkin/sunflower/chia/flax seeds and more.

- **Choose whole grains.**

Amaranth, barley, brown rice, buckwheat, bulgur, millet, popcorn, rye, quinoa, whole oats, whole grain bread/tortillas/cereals/flours to name a few.

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Kid-Friendly Tips to Move Towards a Whole Food, Plant-Based Eating Plan

Take your family's journey to a healthy lifestyle step-by-step.

- Identify plant-based foods your family already enjoys like apple slices or bean burritos, and serve them more often.
- Gradually introduce your family to new foods by pairing them with familiar favorites.

Make the healthy choice the easy choice.

- Keep fresh produce in a bowl on the counter and at eye-level in the fridge so it is the first thing you and your kids reach for when wanting a snack.
- Stock your pantry with staple ingredients that can be assembled into a quick meal.

Have fun!

- Share the plate illustration with kids, and help them assemble their plate to match.
- Come up with fun, creative names for foods, like "power peas," "dinosaur tree broccoli," "x-ray vision carrots."

Lead by example.

- All eyes are on you! If children see you trying and eating certain foods, they will be more likely to try them too.
- Turn off screens and put away electronic devices during meals to make it a calmer environment and a time to reconnect about the days activities.

Work with a Registered Dietitian to understand how to adopt a plant-predominant dietary lifestyle--one that's optimal for growing bodies that sets the course for a health-filled lifetime.

Get your children involved.

- Allow children to pick a new fruit or vegetable to try each week.
- Start a tomato plant on the porch and have children water and take care of it.
- Assign age-appropriate kitchen tasks to everyone in the family.

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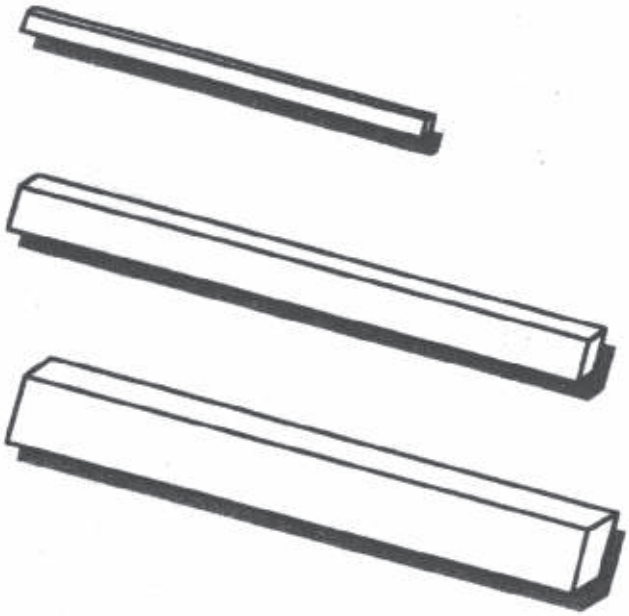
Basic Vegetable Cuts



Fine Julienne (1/8" x 1/8" x 1-1/2")

Julienne (1/4" x 1/4" x 2")

Batonnet (1/2" x 1/2" x 2-1/2")

Different Sizes of Dice

Small

1/4x 1/4 X 1/4

Medium

1/2 x 1/2 X 1/2

Large

3/4 x 3/4 x 3/4

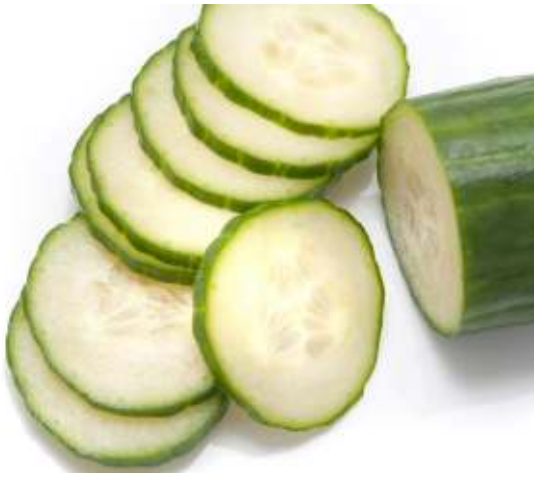
Basic Vegetable Cuts

Mince (fine chop)

Roll cut

Chiffonade

Rounds



Salad slice | Sauté slice

Essential Kitchen Equipment & Tools

What is the "essential kitchen"? How does one decide? The answer to this depends partly on who you are, but is based on the same basic equipment for most people. To further par down, we focus here on the essential *healthy* kitchen. A healthy kitchen functions much the same as a standard kitchen because most cooking techniques and equipment can be used to produce wholesome foods.

This guide will help you to stock your kitchen with the tools that you need without wasting money or buying a bunch of useless clutter. Included here are lists of **essential** equipment, **helpful** additions, and some examples of **superfluous** items. Please remember as you read that these are suggestions, not rules! Criteria are included to help you decide what is best for you, and this may vary from the given lists. For example, if you eat a traditional Japanese diet, a rice cooker maybe helpful or essential, whereas it is superfluous for many. Your family traditions may include the making of a specific item requiring specialty equipment during a holiday–this equipment then either becomes essential for you or someone in your family.

Cost: In previous iterations of this handout, example prices were given for each item at both a restaurant supply store and a name brand kitchen store. Because prices vary market to market and over time, these have been removed. However, the takeaway remains the same—you can stock your kitchen affordably, with good quality gear, by shopping at restaurant supply stores, second-hand stores, wholesale warehouses, and mass-market online retailers. For costly small appliances, such as food processors, you can often find deals on factory refurbished items. By using these shopping tips, you can stock your entire kitchen for less 1/3 the price you would pay at a name brand kitchen retailer.

Happy cooking!

Use the following criteria to decide what is essential, helpful or superfluous:

1) Do/would I use this everyday, weekly, or at least bi-weekly? (**essential**)
2) Do/would I use this monthly? (**helpful**)
3) Do/would I use this less than monthly? (probably **superfluous** [i.e., wasting your space and money], but might also be a seasonal or holiday-specific item that you would use every year in which case it may be important for you.)
4) Can I use a piece of equipment that is already in my kitchen to do the same task without much extra work? (**superfluous**) With extra work? (**helpful**)
5) Is there no (or no convenient) other item that will allow me to complete a specific, regularly used cooking technique? (**essential**)

Essential (Simplified List)

Cutlery

8 or 10" Chef's Knife
3-1/2 or 4" Paring Knife
Poly/Plastic Cutting Board (12x18")
Steel (10" or longer)
Kitchen Shears

Essential Kitchen Equipment & Tools

Pots & Pans

1-1/2 or 2 qt. Sauce Pan with lid
4 qt. Sauce Pan with lid
10" Non-stick Fry Pan
14" Deep/Steep-sided Sauté Pan with lid
8 qt. Stock/Sauce/Pasta Pot with lid
Roasting Pan (approx 17-20"x12-16"x2-3")

Bakeware

9x13" Rectangular Baking Pan
8x8" or 9x9" Square Baking Pan
12-cup Muffin Pan
1# Loaf Pan
1/2 sheet pan (2 each)
Stainless Steel Mixing Bowls (2, 4, and 6 liter or quart)

Gadgets & Utensils

Steamer Inset
Measuring Spoons
(1/4, 1/2 & 1 tsp, and 1 Tbsp minimum)
Dry Measuring Cups
(1/4, 1/3, 1/2 & 1 cup minimum)
Liquid measuring cups (1 cup & 1 qt sizes)
Can Opener
Instant-read Thermometer (dial or digital)
Tongs (Stainless steel 9-12")
Pastry Brush (bristle or nylon, 1-1/2 - 3")
Vegetable Peeler Colander (4-6 qt)
Turner (metal)
Heat-resistant Plastic Turner (at least 400˚F)
Heat-resistant Spatula (silicone)
Wooden Spoon
Whisk/Whip (Stainless Steel, 10-12")
Slotted Spoon
Serving/Saucing Spoon
Ladle (4-6 oz. size)
Microplane/Rasp-style Grater
Waiter's Corkscrew
Salad Spinner
Bench scraper or plastic scraper

Small Appliances

Food processor/blender

Essential Kitchen Equipment & Tools

POTS & PANS	
1-1/2 or 2 qt. Sauce Pan with lid	All pans should have a thick bottom of either cast aluminum or a triple-ply construction of two stainless steel layers sandwiching an aluminum layer between them (copper is great, too, but expensive). Make sure that all parts are oven-safe. Lids are nice, but a plate will work in a pinch.
4 qt. Sauce Pan with lid	The "essential" sizes of pans shown here are what people typically report using most often—get others or different sized pans if your needs differ.
10" Non-stick Fry Pan	A high-quality, non-stick pan is helpful in reducing the amount of fat needed in cooking and preventing delicate items from sticking. 10" is usually best if you only have one; if you purchase two, you may want to consider getting both 7-8" & 12-14" pans instead.
14" Deep/Steep-sided Sauté Pan with lid	A large, deep sauté pan is perfect for sauce making, braising on the stovetop and making reductions. If you are cooking without oil, opt for non-stick varieties.
8 qt. Stock/Sauce/Pasta Pot with lid	Unless you are making stock for a commercial kitchen or home canning, an 8 qt. pot will cover your soup, stew, sauce, braising and pasta boiling needs.
Large Roasting Pan	If you are only buying one roasting pan, opt for a large one (approximately 17-20"x12-16"x2-3"). This pan is typically used for a turkey or large roast, but is very useful for roasting vegetables or tofu, etc. You can use a 9x13" baking/cake pan for a small roasting pan for smaller and/or fewer items if you need to in a pinch.
BAKEWARE	
9x13" Rectangular Baking Pan	Make sure that **baking pans do not have a dark-colored coating** as it will cause baked goods to brown too quickly. This particular common pan size for cakes doubles as a small roasting pan.
8x8" or 9x9" Square Baking Pan	Common pan size for cornbread, brownies, and the like; many people prefer to have two pans this size on hand
12-cup Muffin Pan	This pan is good for making individual-sized portions of many things—not just muffins
1# Loaf Pan	Perfect for plant-based loaves (e.g., meatloaf alternatives), quick breads, and yeast breads. It is helpful to have more than one as many recipes are portioned for two pans.
1/2 sheet pan	This works well for cookies, toasting nuts, and roasting items with little liquid. It is helpful to have more than one for making large or multiple batches of foods.

Essential Kitchen Equipment & Tools

Stainless Steel Mixing Bowls (3 each ranging from 2-10 quarts in size)	It is best to have 3 bowls of various sizes (2, 4 & 6-qt sizes are usually sufficient). Make sure that these do not have rubberized bottoms or other accoutrements as they will double as your double-boiler when set over water steaming in one of your sauce pans.
GADGETS & UTENSILS	
Steamer Inset	There is no need to buy a separate steamer unless you cook a lot of steamed dishes. An inexpensive, expandable metal version with a stem and loop in the center can be used in any of your pots or pans.
Measuring Spoons	1/4, 1/2 & 1 tsp, and 1 Tbsp spoons should be included at minimum
Dry Measuring Cups	1/4, 1/3, 1/2 & 1 cup sizes should be included at minimum.
Liquid measuring cups	Get two—a 1-cup measure is more accurate for small amounts, but will be burdensome when measuring large amounts of liquid. For this, you'll appreciate a 1-quart measure.
Can Opener	A simple, manual can opener if fine for most people. Those with arthritis or other movement conditions should consider an electric version.
Instant-read Thermometer	There are many fancy thermometers available; however, a simple dial thermometer is all that you need (unless you have vision considerations).
Tongs (Stainless steel 9-12")	9" Stainless Steel tongs with a locking mechanism are best for general home use. They should be very inexpensive. You may want a longer set for outdoor grilling.
Pastry Brush	Choose a flat brush measuring between 1-1/2 to 3" in width. Bristles are usually made of either boar bristles (easier to get clean after using for oils) or nylon (dishwasher/heat safe type)—either is fine.
Vegetable Peeler	"Y"-shaped peelers are generally better for peeling squash and other things with broad surfaces or that are stringy/fibrous (i.e. celery). Straight, stainless steel swivel peelers are good for general use (Oxo's Good Grips is a favorite).
Colander (4-6 qt)	You want something with a sturdy base, a top wide enough that you don't have to aim a boiling pot of pasta at it with much precision and holes small enough that small items (like quinoa or rice) will not escape. A large colander is also helpful for draining washed produce.
Turner (metal)	For use in very high-heat cooking, metal pans, removing cookies from a baking sheet, grilling, etc.
Heat-resistant (to 400˚F) Plastic Turner	General use and non-stick cookware
Heat-resistant Spatula (silicone)	These have many uses: stirring, scraping bowls, spreading, turning omelets, etc. Heat-resistant versions do not melt and resist staining. It is helpful to have more than one.

Essential Kitchen Equipment & Tools

Wooden Spoon	Used for many of the same tasks as the heat-resistant spatula but are much more successful in stirring doughs and stews. Again, it is helpful to have more than one.
Whisk/Whip (Stainless Steel, 10-12")	For whipping egg whites, emulsifying and making smooth sauces, and dispersing dry ingredients in baking mixtures.
Slotted Spoon	Retrieving items from a liquid
Serving/Saucing Spoon	Skimming, serving, basting, stirring.
Ladle (4-6 oz. size)	Besides being necessary to serve soup, having a 4-ounce ladle is helpful when being mindful of portion sizes.
Microplane/Rasp-style Grater	Used for zesting citrus, grating garlic (instead of using a press), or grating ginger.
Waiter's Corkscrew	People spend a lot of money on fancy wine openers, but after a quick tutorial, most people find an inexpensive waiter's corkscrew works well for opening wine.
Bench Scraper/Plastic Scraper	Often available for only $1-2, these help keep your work space clean and reduce food waste, quickly paying for themselves.
Salad Spinner	Common complaints are that lettuces spoil too quickly; and that thoroughly rinsed vegetables, while safer from a bacterial standpoint than their unwashed counterparts, hang onto water and water down the dishes to which they are added or cause dangerous popping when put into hot oil. A salad spinner uses centrifugal force to remove nearly all of the water from the surface of items placed within. This helps to prevent all of the problems mentioned here.

SMALL APPLIANCES	
Food Processor/Blender	If you can only have one, buy a quality version that does a good job with both blending and food processing tasks. This will make quick work of chopping ingredients, grating cheese, slicing, making sauces/salsas, kneading bread dough, and more. It also allows you to make homemade nut butters and pesto; however, these can also be made with a mortar and pestle.

Helpful	**DETAILED LIST**
CUTLERY	
8-10" Bread Knife w/ Scalloped Edge	A bread knife makes easy work of slicing breads, cakes, chopping blocks of chocolate, and slicing tomatoes; however, these tasks can be done with a well-maintained chef's knife. Make sure the knife that you purchase is not serrated, but rather has a scalloped edge which can be kept up with a steel and sharpened when needed.

Essential Kitchen Equipment & Tools

Whet or Sharpening Stone (alternative: home knife sharpener)	These stones can be purchased very inexpensively at restaurant supply stores or online. After mastering the use of a steel, most cooks need only use a stone annually or biannually to sharpen their knife. Unless knives are not taken care of properly, they should not need professional sharpening with any frequency.
Mandoline/Slicer	This tool is useful for making very thin slices, julienne, and waffle-shaped cuts. It is also helpful for making slices of uniform thickness. Every task except the waffle cut can be done with a chef's knife and good knife skills. Some food processors can perform these functions—if you have one, you can skip the Mandoline.

POTS & PANS	
3 qt Sauce Pan	Many people prefer to have more than two sauce pans around—this is another useful size to consider.
Lids for each pan	
12- or 20-quart Pot	The 12 qt. pot is helpful for stock and cooking in bulk. The 20 qt. is used mostly by those who home can.
Small Roasting Pan	As mentioned next to "Roasting Pan," this smaller size (approximately 13-14"x9-11"x2-3") is nice, but not necessary. One perk is that is will be heavy enough to deglaze on the stove top, whereas a cake pan cannot be used for this purpose.
Cooling Rack	Anyone who bakes will appreciate a place to cool cookies and loaves from the oven. It elevates whatever item is placed on top to allow air to circulate on all sides which speeds cooling. A cooling rack can also double as a roasting or canning rack if small enough to fit inside the appropriate pans.
Roasting Rack	When roasting, the item being cooked must be elevated so that it does not stew in its own juices. Many roasting pans come with a rack. If yours does not, you can purchase one separately, position a small cooking rack inside your roasting pan with balled-up aluminum foil, or simply use large-cut vegetables to elevate the roasted item from the roasting pan base.
Grill Pan/Reversible Griddle	Grilling is a popular, flavorful cooking technique easily amenable to healthy cooking. If you do not have an outdoor grill, or are not always ready to go to the work of firing it up, a cast iron grill pan is a good solution. It also serves as a broil pan if you have a broiler. Be sure to purchase a double burner version. Many grill pans are also griddles (flat cooking surfaces) on their opposite side which are great when cooking for a crowd.

Essential Kitchen Equipment & Tools

BAKEWARE	
Both Metal & Pyrex 13x9" Baking Pans	Because of its versatility (cakes, lasagna, roasting, and more), many kitchens have more than one pan this size—often made of different materials (metal alloy, Pyrex, ceramic, etc.).
Rolling Pin (straight)	French bakers have long been fond of straight, dowel-style rolling pins without handles. If you are not an avid baker, a wine bottle (or other large glass bottle) will work in a pinch.
Fine Strainer	This style of strainer is useful for rinsing grains, sifting ingredients for baking, and serves as a second "colander" if the other one is in use.
GADGETS & UTENSILS	
Fish Spatula/Turner	This style of spatula is not just for fish! It is ideal for delicate items such tofu "steaks" or other items that tend to fall apart when flipping in a skillet.
Box-style grater	Can be used to grate carrots, apples, zucchini, and other vegetables and fruits if you don't have a food processor.
SMALL APPLIANCES	
Hand mixer	A standing mixer will always out-perform a hand mixer, but they are expensive and take up a lot of space. A good hand-held mixer can accomplish many of the same tasks except kneading bread. Unless you are an avid baker, it is a waste of money and space to get a stand mixer. Additionally, most tasks that a hand mixer does can also be done by hand with a wooden spoons, spatula and/or whisk.
Slow Cooker	Slow cookers are ideal for time-limited, budget, do-ahead meals. They usually can only be filled 2/3 full, so buy at least a 6-quart capacity model to allow room for 1-2 pounds of beans, large pot of curry, or a gallon of soup. Timer features that switch the cooker to warm are great in case you're ever running late.
Pitcher Blender	A blender generally has 4 blades angled so that they draw the ingredients inside the pitcher toward them and yield a smooth end-product. They also crush ice. A food processor is not able to make purees as smooth or crush ice well.
Coffee Grinder	Depending on the style(s) of cooking that you use, a coffee grinder may or may not be on your list—Indian, Middle Eastern, and African foods come to mind when thinking of ample spice grinding in the production process. A mortar and pestle is much more physical work on your part, but can also do the job. If you plan to use this for both coffee and spice grinding, make sure to grind a batch or two of rice to a powder before switching back-and-forth.

Essential Kitchen Equipment & Tools

Mortar & Pestle	The mortar & pestle has been used worldwide for numerous food and medicinal purposes. A famous American restaurant comes to mind that still prefers them to a food processor! The one recommended is far superior to most you will find in the store, and can be used for guacamole, pesto, nut butters, crushing/grinding dry herbs and spices, and much more.

Superfluous (possible examples)	**DETAILED LIST**
CUTLERY	
Carving Knife/Set	Most carving can be done with a Chef's knife and regular fork. Unless you do a lot of carving or have extra money to spend, this will not be a good use of your resources.
POTS & PANS	
Wok	Unless you have a wok stove able to produce a much hotter flame than most home stove tops, it is counterproductive to cook with this style of pan. Instead, use a large sauté or fry pan to stir-fry set over maximum heat or get an Electric Wok. If you must have a wok on the stove, get a flat bottomed one to maximize contact with the heat source.
LARGE APPLIANCES	
Outdoor Grill	Buying an outdoor grill to suit your needs is very individual (no recommendations given here).
SMALL APPLIANCES	
Stand Mixer	See notes next to "Hand Mixer" under "Helpful" for more information. The hand-held mixers on the recommended equipment list accomplish all of the tasks that the stand mixer can (albeit more slowly and less conveniently) except kneading bread, and are much more economical. If you are an avid baker, find yourself in need of a stand mixer and would like a recommendation, the KitchenAid Professional 600 $349.99 is it.
Rice Cooker	When using proper technique, it is easy to make rice in a sauce pan on your stove top. Unless you make rice daily, a rice cooker is probably a waste of money and kitchen space.

Food Storage 101

Apps are available either online or for download onto your Apple or Android devices, such as the USDA Foodkeeper app (https://www.foodsafety.gov/keep-food-safe/foodkeeper-app). It is also easy to search online for any food you're interested in finding out more about in terms of season, selection, and storage.

What follows are some general recommendations which serve as good rules of thumb but should not be taken as comprehensive information on food storage.

Fresh Fruit: Buy in-season for the best flavor. Once ripe, most should be stored refrigerated until ready to eat for the longest shelf life. The main exception to this is bananas which should not be refrigerated. However, fruit is more likely to be consumed sitting out in a dish, so you may want to place a few items on the counter (no more than 1-2 days' worth) to encourage eating.

- Make sure not to refrigerate underripe or unripe fruits such as stone fruits (e.g., peaches, nectarines, plums), avocados, figs, plantains, etc., because they will not ripen in the refrigerator. Keep these on the counter until ripe and then refrigerate if they haven't been eaten.
- Don't wash fruit until you're ready to eat it. The additional moisture promotes rotting. This is especially true for berries.

Vegetables: The items considered vegetables from a cooking standpoint actually include many items that are botanically fruits. True vegetables range from delicate, leafy greens to sturdy root vegetables. Therefore, storage methods and durations range considerably from one items to the next.

- Greens and herbs: see the *How to Wash and Store Greens & Herbs* handout.
- Tomatoes and related items: these should not be refrigerated until ripe, and if possible, refrigeration should be avoided altogether except for cut tomatoes or prepared dishes. Tomatoes are best eaten fresh, but are also delicious after canning or freezing in prepared sauces.
- Root vegetables (e.g., potatoes, turnips, beets, rutabagas, carrots, parsnips, etc.): it's best to look up the individual vegetable in question as storage times and methods vary widely. For example, potatoes actually last longest when stored between 45-55 degrees Fahrenheit, and spoil more quickly at higher or lower (such as room or refrigerator temperatures, respectively). Rutabagas and turnips, on the other hand, can last months in the crisper drawer of the refrigerator. Carrots and parsnips do well stored in plastic bags in the crisper drawer for weeks. Beets are a bit more temperamental and will only last a little more than a week in the fridge. Greens must be removed from roots for storage (though most can be used in other cooking methods, so don't waste them!) and each root vegetables' storage life can be prolonged using other tips and tricks available by searching online.
- Allium: this group includes onions, garlic, and similar vegetables. Again, looking up each individual type is the best way to go. Depending on the type and time of harvest, allium can have different shelf lives. Those harvested in the fall store the longest, particularly kept separated in breathable bags (NOT plastic) in a dry location at about 40-45 degrees Fahrenheit. To store in the fridge, place in the driest location (if drawers are adjustable, set for the low-moisture setting) and use within 2 weeks. Green onions or scallions should be kept refrigerated in a back, wrapped in a lightly damp cloth for about 1 week. Peeled, cut onions

can be stored for up to 2 weeks in the refrigerator in a plastic bag or sealable container. Cut or chopped onions can also be frozen for up to 6 months, but these should only be used for cooking, and not eaten raw because they will be somewhat mushy when thawed.

- Peppers: store in the crisper drawer or in a plastic bag. Too much moisture will cause them to rot, too little will cause them to get soft and wrinkle. Large peppers, such as bell peppers, keep 1 week in the fridge; smaller peppers, such as spicy chilies, can keep slightly longer.
- Eggplant and summer squashes: store dry and unwashed, in a plastic or paper bag, open on one end, in the crisper drawer of the refrigerator; keeps 1-2 weeks.
- Winter squashes: can be cellared for months between 50-55 degrees Fahrenheit. For most home cooks, these keep 1-2+ months uncovered, on a counter, with good air circulation, out of direct sunlight.

Nuts and Seeds: Store in air-tight containers in a cool, dark place at room temperature 2-4 months. For longer storage, refrigerate up to 6 months or freeze for a year or more. Similar to oils, described below, the fats in nuts go rancid and develop an unpleasant taste as they spoil.

Whole Grains: Light, heat, and moisture are the enemies of storing most foods and whole grains are no exception. Whole grains last longer than flours. Store in air-tight containers.

- Whole grains: keeps for up to 6 months in the pantry on a cool, dry shelf or up to a year in the freezer.
- Whole grain flours: keeps for 1-3 months in the pantry on a cool, dry shelf or 6-12 months in the freezer.

Dry Beans: Store in an air-tight container, such as a glass jar with tight-fitting lid. They will keep for years in the pantry. The older dry beans get, the longer they take to cook, so adjust cooking times based on age.

Oils: Unlikely good wine, oils do not get better with age. Oils should be stored in a cool, dark place out of direct sunlight and away from warm appliances. Storing in dark colored bottles can help prolong storage life. When oils spoil, or turn rancid, they can have metallic, bitter, or soapy odors and taste like crayons, motor oil, or like the bitterness of old nuts. The mouthfeel gets greasy, and later sticky, as it gets progressively more rancid.

- Refined oils: those that are translucent without particulate matter—can keep 6-12 months.
- Unrefined oils—such as extra-virgin olive oil—can keep 3-6 months. When possible, purchase unrefined oils with dates of pressing and/or “use by” dates.

Dry Herbs: store in air-tight containers, out of direct sunlight, in a cool place for 6-12 months. If kept dry, most herbs don’t spoil, but rather the flavor fades away. If using older herbs in cooking, use more than the recipe calls for.

Dry Spices: store in air-tight containers, out of direct sunlight. Whole dried spices can last 3-4 years, while ground spices last 1-2 years. Like herbs, most spices don’t spoil, but rather the flavor fades away. If using spices on the older ends of these time ranges, use more than the recipe calls for.

Simple, WFPB, World Flavors Pantry

This handout includes shelf-stable or relatively long-lasting items in each category that allow you to put together a meal quickly, using flavors from around the world, any day of the week. Pair these "pantry" items with whatever fresh produce you find at the market and you will have a well-stocked kitchen ready to prepare a wide variety of delicious, WFPB meals.

Grains:

Quick cook:

Quinoa
Old Fashioned oatmeal or steel-cut oats
Couscous
Bulgur wheat
Sprouted whole grain bread (keep frozen)
Whole wheat pitas
Corn tortillas (keep in fridge)
Frozen whole-wheat pizza dough
Whole wheat (or other whole grain, bean, or lentil-based) pasta

When you have more time:

Brown Rice and any other whole grains you enjoy
Polenta

Other:

Seitan (made from wheat, this is a good source of plant-based protein)

Seasonings/flavoring items/condiments:

Low-sodium vegetable stock or broth
Dijon mustard or yellow mustard
Something spicy (cayenne pepper, dried chilies, chili flakes, chili-garlic sauce, hot sauce, etc.)
Salsa
Nut & seed butters (e.g., peanut, tahini, cashew, etc.)
Low-sodium tomato sauce, canned tomatoes (whole, crushed, diced), and tomato paste
Low-sodium soy sauce or tamari
Vinegars (Balsamic, Red wine, apple cider, rice wine, white wine, etc)
Nutritional yeast
Coconut milk
Unsweetened coconut flakes
Hoisin sauce (or Black Bean-Garlic sauce)
Olive oil and canola oil (or other liquid plant oil for cooking), optional
Toasted sesame oil, optional

Simple, WFPB, World Flavors Pantry

Fruit:

Frozen berries
Bananas (can be peeled and frozen if they start to brown—these make for great smoothies!)
Citrus fruit
Apples
Dried fruit
Dates

Veggies:

Carrots
Sweet potatoes
Beets or other root veggies
Cabbage
Winter squash
Frozen corn
Frozen peas
Garlic
Onions

Other fruits and vegetables not listed are best if purchased fresh within a few days of using. Try to buy these fresh at least weekly.

Beans, Lentils, Nuts, & Seeds:

Dried lentils and beans
Canned beans
Frozen, cooked beans
Frozen edamame
Tofu (Firm, Extra Firm)
Silken tofu (shelf-stable type)
Nuts (e.g., raw cashews, almonds, walnuts, pine nuts, pecans, peanuts, etc.)
Seeds (flaxseed [ground], chia seed [whole], pepitas, sesame, etc.)
Tempeh

Dairy alternatives:

Unsweetened soy or other plant-based milk (some are shelf-stable prior to opening)
Plant-based parmesan (recipe in curriculum)
Plant-based, unsweetened yogurt (fortified with calcium and Vitamin D)

Simple, WFPB, World Flavors Pantry

If you bake:

Pure vanilla extract
Baking powder
Baking soda
Cornstarch or arrowroot powder
Whole wheat pastry flour
Whole wheat flour
Chickpea flour
Spelt flour
Cocoa powder
Unsweetened apple sauce
All-purpose flour, optional
Sugar, optional
Brown sugar, optional

If gluten-free, some alternative flour options include rice flour, sweet rice flour, tapioca flour, teff flour, millet flour, soy flour, fava flour, and potato starch (xanthan gum is also good to have on hand for a binder).

Sweets & Sweeteners:

Dark chocolate (at least 70%)
Honey, Maple syrup, Agave syrup, or Date paste

Some Basic herbs and spices (see World Flavors—Herbs & Spices for an expanded list):

Salt, optional
Pepper
Bay leaves
Cayenne pepper, ground
Chili powder
Cinnamon, ground
Coriander
Crushed red pepper
Cumin
Curry powder
Ginger, ground
Italian seasoning
Nutmeg
Oregano
Paprika
Rosemary
Thyme

Intro to World Flavors: Herbs, Spices & Flavoring Ingredients from Different Regions

Latin America & Spain	Mediterranean & Middle East	India & Southeast Asia
Allspice *Anise* Annatto seed / Achiote ***Basil*** ***Bay leaves*** ***Black pepper*** ***Cayenne*** Chamomile Chepiche (like tarragon) **Chili powder** *Chilies* Chipotles in adobo Chocolate ***Cilantro*** ***Cinnamon*** *Cloves* Cocoa ***Coriander*** **Crushed Red Pepper** Culantro ***Cumin*** Epazote ***Garlic*** Hibiscus flowers / Flor de Jamaica *Lime* *Mint* ***Nutmeg*** **Oregano,** Mexican Pumpkin seeds / Pepitas verdes *Purslane / Verdolaga* ***Rosemary*** *Saffron* *Sage* ***Smoked paprika*** *Tamarind* ***Thyme*** **Vanilla**	*Allspice* *Anise* Annatto seed ***Basil*** ***Bay leaves*** ***Black pepper*** Capers Caraway seeds *Cardamom* Chives ***Cinnamon*** *Cloves* ***Coriander*** ***Cumin*** Dill Dill seed Fennel ***Garlic*** ***Ginger*** Harissa Juniper berries **Lemon** *Mint* ***Nutmeg*** Orange Orange flower ***Oregano,*** *Turkish* ***Paprika*** **Parsley** Pine nuts Pistachios Poppy seed Rose ***Rosemary*** *Saffron* *Sage* Savory Sumac Tarragon ***Thyme***	Ajwain Anise Aniseed Asafetida ***Bay leaves*** ***Black pepper*** Brown and black mustard seeds *Cardamom* ***Cayenne*** Chili leaf *Chilies* ***Cilantro*** *Cloves* **Coconut & Coconut milk** ***Coriander*** ***Cumin*** Curry leaf **Curry powder** Dry mango powder Fenugreek Galangal Garam masala ***Garlic*** ***Ginger*** Kaffir lime leaf Lemon grass *Lime* Nigella seeds ***Nutmeg*** Onion seeds ***Paprika*** Peanuts Pomegranate seeds Poppy seeds *Saffron* **Sesame seeds & oil** *Tamarind* Thai basil Turmeric

***Italicized ingredients are used by more than one region;* **bolded ingredients = basic pantry options**

Measuring Math & Cooking Equivalents–US Measures

US Dry Volume Measurements

Measure	Equivalent
1/16 teaspoon	dash
1/8 teaspoon	a pinch
3 teaspoons	1 Tablespoon
1/8 cup	2 tablespoons (= 1 standard coffee scoop)
1/4 cup	4 Tablespoons
1/3 cup	5 Tablespoons plus 1 teaspoon
1/2 cup	8 Tablespoons
3/4 cup	12 Tablespoons
1 cup	16 Tablespoons
1 Pound	16 ounces

US Liquid Volume Measurements

Measure	Equivalent
8 Fluid ounces	1 Cup
1 Pint	2 Cups (= 16 fluid ounces)
1 Quart	2 Pints (= 4 cups)
1 Gallon	4 Quarts (= 16 cups)

A few useful US-Metric conversions

Measure	Equivalent
1 teaspoon	5 ml (ml = milliliter)
1 fluid ounce	30 ml
1 cup	240 ml
1 quart or 4 cups	0.95 liter
1 ounce	28 grams
1 pound	454 grams
3.4 fluid ounces	100 ml
3.5 ounces	100 grams
1.10 pounds	500 grams
2.2 pounds	1 kilogram

In other words:

3 teaspoons = 1 Tablespoon = 1/2 fluid ounce = 1/16 cup

1 ounce = 1/8 cup

4 cups = 1 quart = 1/4 gallon

1 liter = 34 fluid ounces = 4.2 cups = 2.1 pints = 1.06 quarts = 0.26 gallons

1 kilogram = 2.2 pounds = 35 ounces

Cooking Techniques

Boil: to cook in rapidly bubbling, often salted, water.

Braise: to brown an ingredient—often a protein—in a small amount of fat and then put into a covered pot with some cooking liquid and simmer slowly over low to moderate heat.

Broil: to cook underneath a flame.

Grill: to cook on a grate over open flame or hot coals.

Microwave: microwaving can be used instead of boiling, steaming, or some long-cooking techniques to preserve nutrients, especially in fruits and vegetables.

Poach: to cook in hot water that is bubbling very gently. Used for delicate items such as eggs or fish.

Roast or Bake: to cook uncovered, using dry heat (no liquid), generally in an oven.

Sear: to cook by adding an ingredient directly to a very hot pan or griddle to quickly caramelize or brown the outside. This generally adds flavor at the beginning or end of cooking and is used along with another cooking method.

Simmer: to cook in liquid that is gently bubbling (at a temperature above poaching, but below boiling).

Steam: to cook an ingredient set over top of, but not submerged in, boiling water.

Water Sauté: the same as sauté but using water (or broth) in place of oil; this technique generally will not achieve the same degree of caramelization as traditional sauté but reduces oil and calories in a dish. A similar method can be used in stir-frying as well.

Sauté*: to cook small or medium-sized pieces of food quickly over medium-high heat, stirring or tossing frequently, in a small amount of oil.

Stir-fry*: Similar to sautéing, but uses higher heat and food is always cut small. The goal is to cook very quickly with a small amount of oil.

No Cooking! Eating fresh vegetables and fruits alone, in a salad, or added to another dish is a great way to "bulk up" your meal without many added calories, but LOTS of added nutrients.

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*Traditionally, sauté and stir-fry techniques use oil and descriptions are included for reference. Those following an entirely whole food, plant-based diet would use the water sauté method for both sautéing and stir-frying.

Cooking Techniques

Sauces: A variety of cooked and uncooked sauces based on nuts, fruits, vegetables, herbs, spices, and other flavoring ingredients. Many require no cooking and can be made ahead. Add these sauces to any combination of whole grains, legumes, and vegetables for a quick, delicious, healthy meal.

- Nut-based Sauces: Cooked or raw sauces made from nut butters or soaked and blended nuts. These can either highlight the flavor of the nut or provide a creamy backdrop for other flavors.
- Pureed Vegetable, Herb, & Fruit-based Sauces: Can replace oil or cream-based sauces and add flavor with minimal calories.
- No- or Low-Oil Dressings: Can be made similarly to a vinaigrette, by replacing oil with water, juice, broth, or another liquid. However, others are blended to incorporate a mixture of fruits, vegetables, broths, herbs, spices, vinegars, acids, and/or nuts and more closely resemble Nut-based or Pureed Sauces.
- Vinaigrettes*: Classic French sauce made of 2/3 to 3/4 oil and 1/4 acid (e.g., vinegar, lemon juice, etc.); for other styles, a variety of flavoring ingredients can be added. Often used to dress salads or for marinades.

*Vinaigrette description is included for reference. Those following an entirely whole food, plant-based diet would use no-oil dressings.

FOOD FACTS

From the U.S. Food and Drug Administration

Safe Food Handling: *What You Need to Know*

The food supply in the United States is among the safest in the world. However, when certain disease-causing bacteria or pathogens contaminate food, they can cause foodborne illness, often called "food poisoning." The Federal government estimates that there are about 48 million cases of foodborne illness annually – the equivalent of sickening 1 in 6 Americans each year. And each year, these illnesses result in an estimated 128,000 hospitalizations and 3,000 deaths.

Know the Symptoms

Consuming dangerous foodborne bacteria will usually cause illness within 1 to 3 days of eating the contaminated food. However, sickness can also occur within 20 minutes or up to 6 weeks later. Symptoms of foodborne illness can include: vomiting, diarrhea, and abdominal pain – and flu-like symptoms, such as fever, headache, and body ache.

Handle Foods Safely

Although most healthy people will recover from a foodborne illness within a short period of time, some can develop chronic, severe, or even life-threatening health problems. In addition, some people are at a higher risk for developing foodborne illness, including pregnant women, young children, older adults, and people with weakened immune systems (such as transplant patients and individuals with HIV/AIDS, cancer, or diabetes). To keep your family safer from food poisoning, **follow these four simple steps: clean, separate, cook, and chill.**

CLEAN
Wash hands and surfaces often

- Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers, and handling pets.
- Wash your cutting boards, dishes, utensils, and counter tops with hot soapy water after preparing each food item.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, launder them often in the hot cycle.
- Rinse fresh fruits and vegetables under running tap water, including those with skins and rinds that are not eaten. Scrub firm produce with a clean produce brush.
- With canned goods, remember to clean lids before opening.

SEPARATE
Separate raw meats from other foods

- Separate raw meat, poultry, seafood, and eggs from other foods in your grocery shopping cart, grocery bags, and refrigerator.
- Use one cutting board for fresh produce and a separate one for raw meat, poultry, and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood, or eggs unless the plate has been washed in hot, soapy water.
- Don't reuse marinades used on raw foods unless you bring them to a boil first.

FOOD FACTS

COOK
Cook to the right temperature

- Color and texture are unreliable indicators of safety. Using a food thermometer is the only way to ensure the safety of meat, poultry, seafood, and egg products for all cooking methods. These foods must be cooked to a safe minimum internal temperature to destroy any harmful bacteria.
- Cook eggs until the yolk and white are firm. Only use recipes in which eggs are cooked or heated thoroughly.
- When cooking in a microwave oven, cover food, stir, and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking. Always allow standing time, which completes the cooking, before checking the internal temperature with a food thermometer.
- Bring sauces, soups and gravy to a boil when reheating.

CHILL
Refrigerate foods promptly

- Use an appliance thermometer to be sure the temperature is consistently 40° F or below and the freezer temperature is 0° F or below.
- Refrigerate or freeze meat, poultry, eggs, seafood, and other perishables within 2 hours of cooking or purchasing. Refrigerate within 1 hour if the temperature outside is above 90° F.
- Never thaw food at room temperature, such as on the counter top. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.
- Always marinate food in the refrigerator.
- Divide large amounts of leftovers into shallow containers for quicker cooling in the refrigerator.

Safe Minimium Internal Temperatures
as measured with a food thermometer

Beef, Pork, Veal, and Lamb (chops, roasts, steaks)	145 °F with a 3 minute rest time
Ground Meat	160 °F
Ham, uncooked (fresh or smoked)	145 °F with a 3 minute rest time
Ham, fully cooked (to reheat)	140 °F
Poultry (ground, parts, whole, and stuffing)	165 °F
Eggs	Cook until yolk and white are firm
Egg Dishes	160 °F
Fin Fish	145 °F or flesh is opaque and separates easily with a fork
Shrimp, Lobster, and Crabs	Flesh is pearly and opaque
Clams, Oysters, and Mussels	Shells open during cooking
Scallops	Flesh is milky white or opaque and firm
Leftovers and Casseroles	165 °F

Report a Problem

If you think that you or a family member has a foodborne illness, contact your **healthcare provider immediately**. Also, **report** the suspected foodborne illness to FDA in either of these ways:

- Contact the Consumer Complaint Coordinator in your area. Locate a coordinator here: **http://www.fda.gov/Safety/ReportaProblem/ConsumerComplaintCoordinators**
- Contact MedWatch, FDA's Safety Information and Adverse Event Reporting Program:

  By Phone: 1-800-FDA-1088

  Online: File a voluntary report at **http://www.fda.gov/medwatch**

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For more information, contact the U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition's Food and Cosmetic Information Center at **1-888-SAFEFOOD** (toll free), Monday through Friday 10 AM to 4 PM ET (except Thursdays from 12:30 PM to 1:30 PM ET and Federal holidays). Or, visit the FDA website at **http://www.fda.gov/educationresourcelibrary**

Health Benefits of Plant-based Proteins

Plant-based protein options are broad and include an array of foods from whole to highly processed. The less processed the option you choose, the more health benefits are likely conveyed. Whole plant foods that are high in protein include beans, peas, soy, lentils, tofu, nuts, and seeds, among others. However, those eating a plant-based diet get protein from a variety of unsuspecting sources such as whole grains and vegetables.

All of these plant sources of protein also contain other healthful nutrients such as low-glycemic index carbohydrates, fiber, healthy fats, vitamins, minerals, and other phytonutrients. Nuts, in particular, are not only a good source of protein but also healthy fats such as omega-3 fatty acids. In contrast, animal sources of protein, particularly red and processed meats, are higher in unhealthy fats and cholesterol, contain no fiber, and lower levels of most vitamins. Processed meats are also high in sodium and classified as IARC Group 1, carcinogenic to humans.[1]

Observational data suggests that legume consumption is associated with better weight management and lipid profiles, potentially due to high fiber content.[2] Replacing meat with plant-based protein at meals is an easy way to increase vegetable and fiber consumption while limiting intake of red and processed meat. In addition, plant-based protein is often less expensive than purchasing meat and has a much lower environmental impact. When possible, choose whole plant food protein options over highly processed meat analogs which tend to be higher in saturated fat and sodium, while also having a greater environmental impact, than their whole plant food counterparts. (See Introduction section on "Sustainability and Health" for additional information on how dietary choices impact environmental health.)

Eating a varied diet of whole, plant foods provides all needed protein and essential amino acids (i.e., protein building blocks that our bodies cannot make and must consume). While individual plant foods contain varying levels of essential amino acids, this is of no health concern for those eating a whole food, plant-based diet. Anyone consuming sufficient calories from a variety of plant foods including vegetables, fruits, whole grains, legumes, nuts, and seeds also consumes sufficient quantities of protein and required amounts of all essential amino acids.[3]

1. Bouvard V, Loomis D, Guyton KZ, et al. Carcinogenicity of consumption of red and processed meat. *The Lancet Oncology.* 2015;16(16):1599-1600. 10.1016/s1470-2045(15)00444-1.
2. Polak R, Phillips EM, Campbell A. Legumes: Health benefits and culinary approaches to increase intake. *Clin Diabetes.* 2015;33(4):198-205. 10.2337/diaclin.33.4.198.
3. Position of the Academy of Nutrition and Dietetics: Vegetarian diets. *J Acad Nutr Diet*. 2016;116:1970-1980.

Amount of Calcium in Non-dairy & Dairy Foods

Non-dairy foods, Serving size	Calcium (mg)	Calories
Fortified ready-to-eat cereals (various), 1 ounce	236-1043	88-106
Soy milk, calcium fortified, 1 cup	368	98
Sardines, canned in oil, drained, 3 ounce	325	177
Tofu, firm, ½ cup	253	88
Tempeh, 3 ounces	100	170
Collard greens, cooked, ½ cup	178	31
Molasses, blackstrap, 1 Tablespoon	172	47
Spinach, cooked from frozen, ½ cup	146	30
Soybeans, green, cooked, ½ cup	130	127
Bok choy, mustard greens, or turnip greens, cooked, ½ cup	158	24
Ocean perch, cooked, 3 ounces	116	103
Oatmeal, plain, instant, fortified, 1 packet prepared	99-110	97-157
Black-eyed Peas/Cowpeas, cooked, ½ cup	106	80
White beans, canned, ½ cup	96	153
Broccoli, cooked, 1 cup	62	54
Kale, cooked from frozen, ½ cup	90	20
Okra, cooked from frozen, ½ cup	88	26
Soybeans, mature, cooked, ½ cup	88	149
Almond butter, 2 Tablespoons	86	202
Almonds, 1 ounce or 2 Tablespoons	83	202
Clams, fresh or canned, 3 oz	78	126
Dandelion greens, cooked from fresh, ½ cup	74	17
Pinto beans, cooked, 1/2 cup	40	122
Black beans, cooked, 1/2 cup	24	140

Dairy foods, Standard serving	Calcium (mg)	Calories
Plain yogurt, non-fat, 6-oz container	334	100
Ricotta cheese, part skim, ½ cup	335	170
Mozzarella cheese, part-skim, 1 ounce	208	90
Cheddar cheese, 1 ounce	205	90
Fat-free (skim) milk, 1 cup	306	83
Whole milk, 1 cup	276	146
Queso añejo, crumbled, 1 ounce	190	100

How to Wash and Store Fresh Greens and Herbs

One of the most common complaints I hear about greens and herbs is that they spoil before they can be eaten. With proper selection, care, and storage, most greens and herbs can last 1-2 weeks in the refrigerator before spoiling. Notable exceptions to this are basil (all types), spring/mesclun mix, other baby greens, and microgreens, all of which are more delicate and spoil much more quickly. Avoid purchasing these items if you aren't going to eating them within 2-3 days of purchase.

When selecting greens, opt for those that come still in a bunch or head, when possible. Look for leaves that aren't wilted or limp and are without yellow, black, or soft spots.

Wash greens (and herbs) and store properly as soon as you get them home.
To do so:

1) Fill a clean tub or sink with cold water. Cut or pull leaves from the head or stem and submerge them in the water; swish around to loosen any dirt. Let sit for several minutes to allow the dirt particles to sink. (If leaves are slightly wilted, let sit in cold water until they are crisp again—you may need to add some ice if your water isn't very cold.)
2) Then, scoop the leaves out of the water without swishing (to prevent picking the dirt particles up again) and transfer to a bowl or salad spinner. Drain water from sink, making sure to rinse away any dirt on the bottom of the sink.
3) Fill the sink again with cold water and repeat the process. For fresh-picked heads of lettuce, it usually requires 2-3 washes to get it completely clean. For store-bought lettuce that may already have been rinsed, you may only need to wash 1-2 times.
4) Once leaves are clean, place into a salad spinner and spin until minimal water is being spun off the greens. You may need to empty water midway through to get the leaves mostly dry.
5) Now you have 2 options:
    a. Easiest home option: Lay out a few paper towels on the counter and then place the spun-dry leaves onto the paper towels. Roll greens up so they are completely surrounded by a single layer of paper towels and transfer to a Ziplock storage bag. Press out most of the air and seal. Store in the refrigerator.
    b. Restaurant method: Line the bottom of a plastic or Lexan storage container with floursack towels or paper towels, then place spun-dry greens on top of the towels, cover with another floursack towel or paper towel that has been lightly wetted, with any excess moisture wrung out. Cover with a loose-fitting lid and store until ready to use.

FOOD FACTS

U.S. FOOD & DRUG ADMINISTRATION

New and Improved Nutrition Facts Label

The U.S. Food and Drug Administration has updated the Nutrition Facts label on packaged foods and beverages with a fresh design that will make it easier for you to make informed food choices that contribute to lifelong healthy eating habits. Explore it today!

Size Up Servings

WHAT'S NEW: Servings per container and serving size are now in larger and/or bolder type. Serving sizes have also been updated to reflect what people eat and drink today. Additionally, there are new requirements for certain size packages, such as those that are between one and two servings or are larger than a single serving but could be consumed in one or multiple sittings.

Serving size is based on the amount of food that is customarily eaten at one time and is not a recommendation of how much to eat. The nutrition information listed on the Nutrition Facts label is *usually based on one serving* of the food; however, some containers may also have information displayed per package.

- **When comparing calories and nutrients in different foods, check the serving size in order to make an accurate comparison.**

Servings per container shows the total number of servings in the entire food package or container.

- **One package of food may contain more than one serving.** Some containers may also have a label with two columns – one column listing the amount of calories and nutrients in one serving and the other column listing this information for the entire package.

Consider the Calories

WHAT'S NEW: Calories are now in larger and bolder type.

Calories refers to the total number of calories, or "energy," supplied from all sources (fat, carbohydrate, protein, and alcohol) in one serving of the food.

- As a general guide: **100 calories per serving of an individual food is considered a moderate amount, and 400 calories or more per serving of an individual food is considered high in calories.**
- To achieve or maintain a healthy weight, balance the number of calories you consume with the number of calories your body uses. **2,000 calories a day is used as a guide for general nutrition advice. Your calorie needs may be higher or lower** and vary depending on your age, sex, height, weight, and physical activity level. Check your calorie needs at **www.ChooseMyPlate.gov/GetMyPlan.**

Transitioning to the New Label

Manufacturers still have time to begin using the new and improved Nutrition Facts label, so you will see both label versions for a while. However, the new label is already starting to appear on products nationwide.

Nutrition Facts

4 servings per container

Serving size 1 1/2 cup (208g)

Amount per serving	
Calories	**240**
	% Daily Value*
Total Fat 4g	**5%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 5mg	**2%**
Sodium 430mg	**19%**
Total Carbohydrate 46g	**17%**
Dietary Fiber 7g	**25%**
Total Sugars 4g	
Includes 2g Added Sugars	**4%**
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

To learn more about the new Nutrition Facts label, visit: **http://go.usa.gov/xkHru**

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FOOD FACTS

Use % Daily Value as a Guide

WHAT'S NEW: The Daily Values for nutrients have been updated based on new scientific evidence. The Daily Values are reference amounts of nutrients to consume or not to exceed each day (for adults and children 4 year of age and older) and are used to calculate the % Daily Value.

% Daily Value (%DV) shows how much a nutrient in a serving of the food contributes to a total daily diet. Use the %DV to determine if a serving of the food is high or low in an individual nutrient and to compare food products *(check to make sure the serving size is the same).*

- As a general guide:
  5% DV or less of a nutrient per serving is considered low, and 20% DV or more of a nutrient per serving is considered high.

Nutrition Facts

4 servings per container
Serving size 1 1/2 cup (208g)

Amount per serving
Calories **240**

	% Daily Value*
Total Fat 4g	**5%**
Saturated Fat 1.5g	**8%**
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Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Choose Nutrients Wisely

WHAT'S NEW: The nutrients that are required on the label have been updated. **Added Sugars** is now required on the label. Added sugars includes sugars that are either added during the processing of foods, or are packaged as such (e.g., a bag of table sugar), and also includes sugars from syrups and honey, and sugars from concentrated fruit or vegetable juices. *Aim for less than 10% of your total daily calories from added sugars.* **Vitamin D and potassium** are also required on the label because many Americans do not get the recommended amounts. Vitamins A and C are no longer required since deficiencies of these vitamins are rare today, but these nutrients can be voluntarily disclosed by manufacturers.

Use the label to choose products that are lower in nutrients you want to get less of and higher in nutrients you want to get more of.

- **Nutrients to get less of: saturated fat, sodium, added sugars, and *trans* fat.** Most Americans exceed the recommended limits for these nutrients, and diets higher in these nutrients are associated with an increased risk of developing some health conditions, such as high blood pressure and cardiovascular disease. Compare and choose foods to **get less than 100% DV of these nutrients each day.** (Note: *Trans* fat has no %DV. Use the amount of grams for comparison and keep the intake of *trans* fat as low as possible)
- **Nutrients to get more of: dietary fiber, vitamin D, calcium, iron, and potassium.** Many Americans do not get the recommended amount of these nutrients, and diets higher in these nutrients can reduce the risk of developing some health conditions, such as high blood pressure, cardiovascular disease, osteoporosis, and anemia. Compare and choose foods to **get 100% DV of these nutrients on most days.**

Ingredients: Bulgur Wheat, Sauce (Water, Half and Half [Milk, Cream], Parmesan Cheese [Pasteurized Skim Milk, Cultures, Salt, Enzymes], Cheddar Cheese [Pasteurized Milk, Cultures, Salt, Enzymes], Olive Oil, Butter, Sugar, Xanthan Gum, Spice), Lentils, Corn, Green Beans, Red Beans, Potatoes.
Contains: Wheat, Milk

Check out the Ingredient List

Although the ingredient list is not part of the Nutrition Facts label, it is also a helpful tool. The Ingredient List shows each ingredient in a food by its **common or usual name.** Ingredients are listed in descending order by weight, so the ingredient that weighs the most is listed first, and the ingredient that weighs the least is listed last.

For more information, contact the U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition's Food and Cosmetic Information Center at **1-888-SAFEFOOD** (toll free), Monday through Friday 10 AM to 4 PM ET (except Thursdays from 12:30 PM to 1:30 PM ET and Federal holidays). Or, visit the FDA website at **http://www.fda.gov/educationresourcelibrary**

Recipe Template for Student Final Project

Student's Name

Recipe Title

Please describe why you chose this recipe or what it means to you.

Ingredients:
1 red bell pepper, medium dice
¼ teaspoon ground cumin
2 cups low-sodium vegetable stock
1 4-inch sprig of rosemary
Salt and black pepper, to taste

**Note: Ingredients are listed in order of use in the instructions. Make sure punctuation is correct--for example, 1/2 cup of chopped cilantro is DIFFERENT than 1/2 cup of cilantro, chopped. The difference is that in the former, you would chop cilantro and then measure. For the latter, you would measure whole pieces of cilantro and then chop. In the latter, you would end up with a much smaller amount of cilantro in the end than in the former.

Instructions:
1. xx

2. xx

Notes:

- Include any substitutions, alterations or adaptations you want to mention here.

Servings: List number and size of servings

Nutritional Info (per serving): (optional-delete this section if you don't have this info) Calories , Total Fat g, Saturated Fat g, Cholesterol mg, Sodium mg, Total Carbohydrate g, Dietary Fiber g, Sugars g, Protein g, Vitamin A %, Vitamin C %, Calcium %, Iron %

Source: List the source for the recipe

**Note: Be specific and give a link if you are taking the recipe directly from the Internet. If you make a number of changes to the ingredients and aren't plagiarizing the instructions, then you can actually consider it your own recipe, even if it's heavily based on someone else's recipe. If you don't want to re-write the instructions but make changes to the recipe, make sure to say something along the lines of "Adapted from ____" and credit the author.

How to Cook Beans—A variety of options

If you ask 10 seasoned cooks how to prepare beans, you'll probably get 10 different answers. There are many ways to successfully cook beans. A few tried, and true, methods follow.

To Soak or Not to Soak:

Soaking beans overnight before cooking helps reduce cooking time and save energy, but it is not necessary. The length of time to soak beans doesn't have to be precise—several hours on the countertop to a few days in the fridge both work as well as soaking overnight. To soak beans ahead of cooking, rinse beans and pick out any debris. Place desired quantity of beans in a container that has room for them to triple in size, fill with water, and cover. If soaking longer than overnight, place in the refrigerator. There is much debate over whether it is better to use the soaking water for cooking or discard it and cook in fresh water—neither option is right or wrong.

The Quick Soak Method:

This is an alternative to the soaking method to that described above. After rinsing beans and picking out debris, place desired quantity of beans in a pot that has at least 4 times the amount of space required for the dry beans. Cover beans with a couple inches (or more) of water, bring to a boil for 2 minutes, turn off heat, cover and allow to stand for 2 hours. Then, proceed with cooking below just as you would with beans soaked overnight.

Cooking Method #1: Boiling on the Stove Top:

Place soaked or rinsed, dry beans in a pot that has room for soaked beans to expand somewhat and dry beans to triple or quadruple in size. Cover soaked beans with 1-2 inches of water (or cooking liquid) or dry beans with a few inches of water. Bring to a boil, and then reduce heat so that liquid is gently simmering. Cook uncovered or partially covered until beans are tender.

Cooking Method #2: Slow Cooker:

It is best to use soaked beans for cooking in a slow cooker or they will take far too long to cook. Soaked beans can generally be cooked on high for 4 hours or low for 8 hours in a slow cooker. Putting them on low to cook right before bed so that they're done when you wake up is a great time-saving tip. Avoid cooking kidney beans in a slow cooker. This is because kidney beans contain a high level of a toxic protein called phytohemagglutinin that requires boiling for at least 15 minutes (though the USDA recommends at least 30 minutes) to reduce to undetectable levels and allow safe eating. This is not a concern with other beans. Slow cookers often don't cook at high enough temperatures to eliminate this toxic protein.

Cooking Method #3: Pressure Cooker:

There are two main types of pressure cookers—stovetop and electric. The former generally cooks at higher temperatures and faster than the latter. Because pressure cookers vary from model to model, it is best to follow the instructions for cooking beans that came with your particular unit. Soaked or unsoaked beans of any type can be safely cooked in a pressure cooker. However, soaked beans cook more quickly and are more likely to stay intact, while unsoaked beans tend to split apart in a pressure cooker. For kidney beans, make sure to use the high-pressure (generally 15 psi) setting to ensure they are safe to eat. You will need at least a 6-quart pressure cooker to cook 1 pound of dry beans.

How to Cook Beans—A variety of options (continued)

How to tell when beans are done:

Beans are done cooking when they are tender in the center and do not taste overly starchy or gritty. However, they should not be cooked so long that they are all falling apart. To get all beans completely cooked, some will generally fall apart. Just make sure they're not all mushy (unless that's what you want!).

Salting beans:

As mentioned elsewhere in the curriculum, from a health perspective, it is best to minimize salt use and cook beans without salting. From a culinary perspective, salt is used to enhance the flavor of beans. However, there is a lot of debate about whether or not to add salt when cooking beans or only during the last few minutes cooking, owing mainly to the (erroneous) concern that salt may prolong cooking time. Either is fine. Adding salt earlier in cooking doesn't actually prolong cooking to any significant degree and can help season them more fully.

Avoid adding acids early:

Do NOT add acidic ingredients—this includes tomato products—until beans are done or nearly done as acid toughens the skins and prolongs cooking.

How to amplify flavors:

To amplify the flavor in beans, add dried or fresh herbs or spices and other aromatics while cooking. A common combination is onion, carrot, celery, bay leaf, thyme, and peppercorns. These flavoring ingredients can be discarded or eaten with the beans, with the exception of bay leaves and whole peppercorns, which should always be discarded.

Food safety:

Make sure not to just transfer a large, hot pot of beans to the fridge after cooking as it will not cool quickly enough to ensure food safety. This is also true of large pots of other hot dishes, like soups. Divide up into smaller containers to refrigerate or freeze for later use. Also, avoid cooking kidney beans in slow cookers as described above.

Using dry beans in place of canned:

A pound of dried beans usually yields 5-6 cups of cooked beans. This is equivalent to nearly 4 cans of store-bought beans. Since a pound of dry beans often sells for about the price of a can of cooked beans, dry beans are about ¼ the price. Additionally, it is much easier to control the amount of salt in a dish using dry versus canned beans as most canned beans contain high levels of sodium.

Storing cooked beans and tips for later use:

Cooked beans can be stored in the refrigerator for about 5 days or frozen for months. To make it easy to cook beans ahead and for quick use another day, drain cooked beans and divide into 1-1/2 cup portions for freezing using your choice of container or storage bag. This is the amount of beans found in a typical 14.5 ounce can. You can remove a container of frozen beans and replace 1:1 for canned beans in recipes this way. It is fine to put frozen beans directly into a soup or stew without thawing. If you want to make a cold preparation, like a salad or hummus, you can soak frozen beans in warm water to thaw quickly.

Shopping for Healthy Food on a Budget

Tips for shopping healthy on a budget:

- **Don't buy prepared foods.** Whole plant foods can actually be quite inexpensive if purchased in their unprepared states. The grocery bills really add up when purchasing prepared or partially prepared dishes made with these sameingredients.
- **Learn to cook and do it often.** Find the time and learn the skills needed to cook. The more you cook, the healthier you'll eat and the less money you'll spend.
- **Buy in bulk.** Many dry pantry staples, such as grains, legumes, nuts, and seeds, can be purchased in bulk at grocery stores and supermarkets. When purchased in bulk, these items are usually lower cost than pre-packaged staples. For fresh items, make sure to buy in bulk only if you can use the quantity purchased—either by eating fresh or freezing—before it spoils. Some people buy fresh in bulk and split with others in their neighborhood orcommunity.
- **Buy just what you need from bulk bins.** Rather than large amounts, "bulk" can also refer to bulk bins (or jars), such as those at markets that allow you to buy just what you need. This is great for herbs or spices that are expensive to buy as a full jar and may go otherwise unused on a shelf. Bulk bins are also nice when trying new beans or grains to make sure you like them before committing to buying larger quantities.
- **Avoid food waste.** Know what fresh items you have and make a plan to use or freezethem.
- **Turn cooking into a social activity and practice meal prepping.** Because lack of leisure time is a key barrier to healthy eating, frame cooking as an activity that the whole family can participate in. This may make it more appealing to those who currently see cooking as a time-consuming activity that doesn't fit into their busy schedule. Similarly, strategizing how to meal prep to efficiently prepare several meals in advance may be appealing to those who do not have time to cook on a daily basis.
- **Don't pay for beverages.** Water is the healthiest drink and most tap water is safe and (almost) free. If you do purchase beverages, stick with unsweetened coffee and tea that you make at home. These healthy options are naturally sugar-free and nearlycalorie-free.
- **Avoid meat.** Meat is expensive; eating less can save you money and improve your health. Opting for plant-based sources of protein in their unprocessed or minimally processed states—such as beans or lentils—will benefit your budget and your health.
- **Buy in-season and look for sales.** These are great strategies to save money on produce. Similarly, look for grocery stores in your area that carry produce that has limited shelf-life remaining to find steepdiscounts.
- **Go back for "seconds" at the farmer's market.** "Seconds" are produce that either need to be used quickly to prevent spoiling or that have animperfect appearance, but still taste good. You can often purchase these for a fraction of the price of the more perfect produce. Finding ways to turn these items into soups or sauces will allow you to freeze for later use.
- **Go to the farmer's market near closing time.** You can bargain with vendors for steeply reduced rates on produce because they don't want to have to take leftover produce back with them when the marketcloses.
- **Stretch your SNAP (aka. "food stamp") benefits at the farmer's market.** You can double your dollars at the main market stand at many farmer's markets, allowing you to purchase twice as much produce.

Shopping for Healthy Food on a Budget

- **Avoid canned fruits and vegetables.** If you have a freezer, it is generally more economical to purchase frozen over canned fruits and veggies. Frozen also taste better than canned and are less likely to have added sugars, salt, or chemicals leached from the plastic lining that occur in commercially canned food. If you do buy canned, avoid those with syrups and high saltcontents.
- **Avoid empty calories** like white bread, cakes, cookies, and other items that are highly processed and filled with refined flours and added sugars because these are unhealthy, lead to food cravings, and have limited nutritional value beyond extracalories.
- **Use water** instead of stock in recipes or make your own stock from vegetable scraps.
- **Learn when buying organic matters.** Emphasize that fresh produce does not have to be organic to be a healthy choice. Individuals do not need to purchase organic produce to make a healthy choice. Any produce that can be added to the diet is better than none at all. If individuals can afford to avoid exposure to non-organic pesticides, direct them to the Environmental Working Group's Dirty Dozen and Clean 15 lists which highlight produce items most and least likely to have high levels of pesticides and contaminants, respectively. If able to spend money on only limited organic produce, opt for those on the Dirty Dozen list.[80]
- **Make use of restaurant supply stores and second-hand stores for essential equipment.** More information on finding affordable cutlery, bakeware, and gadgets can be found in the Essential Kitchen Equipment & Tools handout. Along with finding less-expensive sources, distinguishing necessary equipment from superfluous kitchen gadgets is key.
- **Screen patients for food insecurity** and provide those in need with local food bank contact information and information to sign up for other food assistance programs.

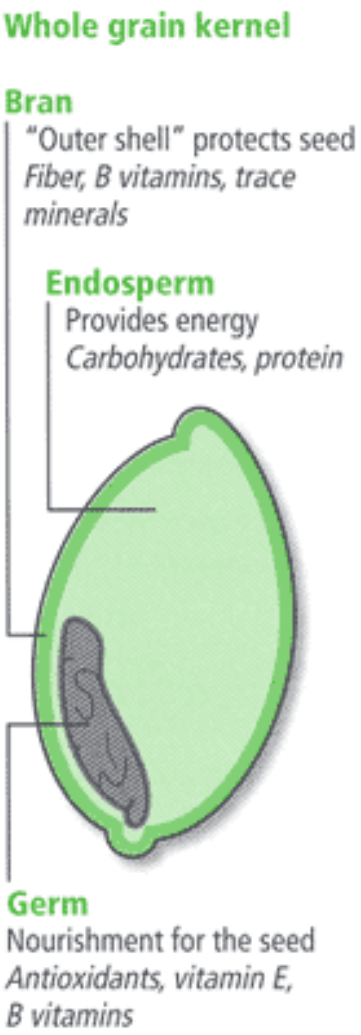
What to buy:
Refer to the Simple, WFPB, World Flavors Pantry handout which lists shelf-stable and relatively long-lasting items to keep on your shelves and in your refrigerator. For fresh produce, the following items are often budget-friendly.

Vegetables:
Carrots
Cucumbers
Zucchini
Summer squash
Sweet potatoes
White or yellow potatoes
Beets or other root vegetables
Cabbages
Winter squash (e.g., butternut, acorn, kabocha, etc.)
Frozen corn
Frozen peas
Frozen spinach
Fresh baby spinach—can often get a large package inexpensively
Romaine or leaf lettuce (when stored properly, lasts much longer than spring mix)
Canned tomatoes (Whole, diced, crushed—look for low- or no-sodium-added)
Canned or jarred tomato sauce

Fruit:
Frozen fruit (avoid those in syrup) Apples
Pears
Oranges and other citrus fruit Lemons/Limes
Bananas (can be peeled and frozen if they start to brown—these make for great smoothies!)
Watermelon and other melons
Kiwifruit Grapes Pineapple
Dried fruit (avoid those with added sugar)

and any produce on sale and in-season (see Tips for Shopping Healthy on a Budget, above)

What Is a Whole Grain?



Grain is a term encompassing a large group of plant foods including oats, wheat, quinoa, brown rice, barley, and rye, among others. A whole grain is a grain that has not been processed to remove the nutrient-rich parts of the grain. In the processing or refining of whole grains, the carbohydrate and calorie-dense part of the grain is isolated by removing the fiber-rich, bran coating and vitamin-rich germ, leaving only the starchy endosperm. This is how processed grains, such as white flour and white rice, are produced.

Parts of a whole grain:

The technical definition of a whole grain is a grain with all three parts of the grain included: bran, germ, and endosperm.

Bran is the outermost layer of the grain kernel, and contains antioxidants, B vitamins, and soluble or insoluble fiber, depending on the grain. Bran is typically removed in the processing of refined grains.

Germ is another layer of the grain kernel. Germ contains more B vitamins, as well as protein, minerals, fats, and antioxidants.

Endosperm is the core of the grain and the largest portion. It contains primarily carbohydrates, but also some protein, vitamins, and minerals.

Refined grains have been processed, typically to include only the endosperm. Because most of the slow-digesting fiber has been removed, refined grains have a higher glycemic load and cause a higher and faster spike in blood glucose and insulin following a meal than their lower glycemic load, whole grain counterparts. The hyper-palatability of processed grains, which lack filling fiber, may also make them easier to overconsume. Additionally, many nutrients and vitamins are lost in the removal of the germ and bran, making refined grains and flour more calorie-dense but less nutrient-dense. Many governments enrich refined grains by adding back some of the lost nutrients, such as folate, that are known to be essential to health. However, it is impossible to fully replace all of the nutrients lost in processing. A more healthful choice is to consume grains as whole grains.

Beware of food labels. "Whole grain" is a term you will see on many food labels, especially ultra-processed foods whose packages include health claims. Be wary and check the ingredients. Oftentimes, these processed foods contain a mixture of refined and whole grains, with whole grains making up only a minority of the total grain content. Other foods might be labeled as "100% whole grain", but may also be high in added sugars—granola is a common example of this.

What Is a Whole Grain?

Terms commonly mistaken as "whole grain." Some whole grain products have different names based on the type of grain. Most flour in the United States is made from wheat, therefore you may see the term "whole wheat" on a label. Processed wheat flour is often called "enriched wheat flour." Generally, the adjectives "whole" and "brown" are only placed before grains that are commonly sold both refined and whole, such as wheat or rice. Others that are typically sold only as whole grain products, such was quinoa or millet, don't include these adjectives. Another term that often appears on packaged food labels is "multi-grain," which refers to the use of more than one type of grain. For example, a bread including corn, oats, and rice might be sold as multi-grain bread. Multi-grain is not synonymous with the term whole grain and doesn't indicate whether the grains used are refined or not.

Whole grains are healthier than flours made from whole grains. Although processed foods made with whole grains may offer more nutrition and fiber than processed foods made with only refined flours, the act of processing results in a less nutritious food compared with one made with grains in their intact, unprocessed form. For example, whole wheat flour is a better choice than enriched wheat flour, but an intact whole grain, like wheat berries, would be a superior choice. Whenever possible, try to choose whole grains in their least processed form. Try making oat groats or steel cut oats for breakfast instead of instant oatmeal or cook brown rice to accompany a meal instead of white rice. By cooking whole grains at home, you also have more control over other added ingredients and can substantially limit added sugars and sodium.

How to Cook Whole Grains

These are the most basic cooking instructions for a variety of whole grains. After trying this a time or two, you will need only the "***Cooking Chart for 1 Cup of Dry, Whole Grains***" as a cooking aide.

BASIC METHOD FOR WHOLE GRAINS

1. RINSE grains in a strainer under cold running water OR by swishing in a bowl of water, then draining, and repeating 1-2 times until water is mostly clear.

2. TRANSFER* grains to a large saucepan (for up to 2 cups of dry grain) or stock pot (for >2 cups of dry grain).

3. ADD WATER & COOK: Add appropriate amount of water or other liquid** as indicated on the chart, place covered over high heat, stirring occasionally until liquid comes to a boil. Add other seasonings or salt, if desired. Then, stir once more, reduce heat to lowest setting, cover and simmer for the length of time indicated on the chart.

4. STAND: Once cooking time is up, remove pot from heat *without uncovering*, and allow to stand for the *standing time* given in chart, or longer.

5. EAT OR STORE: Your cooked, whole grain is ready to serve or store for later. To store, allow grains to cool to near room temperature. Then, store in a covered container in the refrigerator for up to 4 days (reheat in a covered dish in a microwave to serve) or freeze. I like to use a measuring cup to make single servings for freezing by packing the cooked grains into a 1-cup measuring cup, inverting onto a dinner plate or sheet pan (or whatever else fits into your freezer), and repeating until you've done with all of the grains. Then, place the plate/pan into the freezer until the grains to freeze. Remove the plate/pan from the freezer and let sit for a few minutes until the grain "cubes" can be removed easily from the plate/pan and transfer them to an airtight plastic storage bag and return to the freezer.
   - These individual servings are great to take for lunch or to use for a busy weeknight dinner—all that needs to be done is to microwave each portion in a covered container (or in a bowl with a plate over the top) for 1 to 1 ½ minutes on high, and viola, instant (and very inexpensive), whole grains. This also helps with portion control.

***Pilaf variation:** omit the rinsing step. Then, any grain can be toasted in a dry pan, or with a bit of oil, over medium heat, stirring frequently, until it gives off a toasted aroma. After toasting, add the appropriate amount of liquid and follow the remainder of the cooking instructions.

****Other Liquids:** Liquids can be wholly or partially substituted with broths, vegetable or fruit juices, teas, etc.—creativity and individual tastes are the limit. Be sure to decrease the salt (if using), when substituting salt-containing liquids for the water.

BOILING METHOD FOR WHOLE GRAINS

An alternate method of cooking that works for whole grains that can keep their shape with cooking—such as rice, quinoa, wheat berries, farro, or barley—is to bring a large pot of water to a boil as you would for pasta and boil the grains until done (testing occasionally for taste/texture), then drain in a fine strainer as you would pasta and then run cool water over the grains to stop the cooking. This method works well if you want to serve whole grains in a salad rather than as a warm side.

Cooking Chart for 1 Cup* of Dry, Whole Grains					
1 Cup* Dry Whole Grain	**Water****	**Cooking Time (unsoaked)**	**Soaked overnight**	**Yield****	**Standing time**
RICE *(all gluten-free)*					
Brown Rice (Long, medium or short grain; Basmati; Jasmine, Texmati, Sweet brown)	1-3/4 cups	35-40 min.		3 cups	10 min.
Wehani rice (red rice)	1-3/4 cups	35-40 min.		3 cups	10 min.
Wild Rice	2-1/2 to 2-3/4 cups	50-55 min.			10 min.
Forbidden rice	1-1/2 to 1-3/4 cups	30 min.		3 cups	10 min.
OTHER GRAINS					
Quinoa (gluten-free)	1-3/4 cups	12-15 min.		3-1/2 cups	(fluff first) 10 min.
Amaranth (gluten-free)	2 to 2-1/2 cups	20 – 25 min.		3-3 1/2 cups	10 min.
Teff (gluten-free)	3-1/2 to 3-3/4 cups	15 min.		3 cups	(fluff first) 10 min.
Millet (gluten-free)	2-1/4 to 2-1/2 cups	25-30 min		4 cups	(fluff first) 10 min
Buckwheat, groats, roasted (gluten-free)	1-3/4 to 2 cups	20 min.		3 1/2 cups	10 min.
Barley, hulled	3 to 3-1/2 cups	60 min.		3 1/2-4 cups	10 min.
Barley, pearled	3 to 3-1/2 cups	60 min.		3 1/2-4 cups	10 min.
Kamut*	2-1/2 to 3 cups	90 min.	30-45 min.	2 3/4 cups	10 min.
Oat groats*	1-1/2 to 2 cups	1 hour	35 min.	2 1/2 cups	10 min.
Rye, berries	3 to 3-1/2 cups	1-1/2 hours		3 cups	10 min.
Spelt*	2-1/2 to 3 cups	1-1/2 to 2 hrs	45 min.	2 1/2 cups	10 min.
Wheat Berries, Hard (Red)	2-1/2 to 3 cups	1-1/2 to 2 hrs		3 cups	10 min.
Wheat Berries, Soft (White)	2-1/2 to 3 cups	1 hour		3 cups	10 min.
Bulgur (alternate: steep - see below)	1-3/4 cups	10 min.		3 cups	10 min.
Wheat, cracked	2-3/4 cups	20 min.		3 cups	10 min.
GRAINS THAT CAN STEEP (don't rinse, just stir in boiling water, cover and rest for time given for "standing.")					
Couscous, whole wheat	1-1/4 to 1-1/2 cups	1 min.		2 1/2 cups	10 min.
Bulgur	2 cups boiling water			3 cups	1 hour

*1 cup uncooked, dry, whole grains weighs approximately 170-185 g; **1 cup water is measures ~240 ml or ~0.25 L by volume; ***1 cup cooked grain weighs ~200 g and by volume measures about 0.25 L

Tips for Eating Healthy During Group Events

- **Have Breakfast**

Have breakfast every day before you leave the house. When you leave the house without having breakfast you are more likely to pick up something quick and unhealthy when away from home.

- **Stay hydrated**

The same part of the brain tells us when we are hungry or thirsty. Stay hydrated to avoid confusing thirst with hunger.

- **Put food away**

Do not keep food out on the counters because you will be more tempted to eat it throughout the day.

- **Listen to your body**

The feeling or thought of "I could stop eating now," is known as satiety. Many times, we eat beyond the point of satiety, which means eating more calories than we need. Sometimes this happens because we aren't paying attention or because we are used to cleaning our plate. Whatever the reason, it is important to listen to our body's satiety signals.

- **Wait 20 minutes before getting seconds**

If we aren't sensitive to those satiety signals, it is easy to get more food because it tastes good. If we wait a while before getting more food, we will notice that we might not actually want that second helping anymore.

- **Slow Down**

When eating fast, it is easier to overeat than when eating more slowly. This is because the stomach needs time to communicate satiety or fullness to the brain.

- **Practice mindfulness**

It is important to turn off screens during meal times. Focusing on our meals helps our stomach communicate with our body to help us be more sensitivie to satiety cues.

- **Use bowls and plates**

It is important to serve food on plates and in bowls so you know how much you are eating. This helps with portion control. Do not eat directly out of containers.

- **Use smaller plates**

Which plate looks like it has more food on it? Both plates have the same amount of food, but the smaller plate looks like it has more food on it. By using smaller plates, we can trick ourselves into thinking we are eating more than we are. This helps us avoid overeating.

- **Pick your favorites**

During the holiday season, there are more sweets and treats around us than at most other times of the year. It is important to avoid eating these junk foods just because they are within reach. Be selective and try to eat reasonable portions of only those treats that are very important to you. Try not to eat foods just because they're in front of you.

- **Use the "Plate" method**

When assembling your plate, first fill Â½ of your plate with fruits and vegetables and then move on to the other food groups.

- **Enjoy your food**

Holidays and celebrations are often deeply rooted in food. Do not make yourself miserable by foregoing your favorites, just practice moderation and mindfulness.

Tips to Eat Healthier When Eating Out

- Drink plenty of water before going to dinner to prevent eating to satisfy thirst.
- Review the list of healthy cooking techniques below and choose menu items that use these techniques (e.g., grilled, baked, steamed, sautéed, or roasted).
- Skip appetizers—they are meant to stimulate your appetite and get you to eat more.
- Opt for sauces and dressings on the side so that you can add only the amount needed as these items are generally heavy in salt and calories.
- Avoid creamy sauces and soups (unless explicitly plant-based), and opt for vegetable, fruit, or herb-based sauces or vinaigrettes.
- The sauces on Chinese, Japanese, Thai, and Indian food generally tend to be very high in salt. Again, try to get sauces on the side and add only as much as you need, ideally to steamed or lightly stir-fried vegetables, plant-based sources of protein, and brown rice.
- If watching your salt intake, avoid or limit salty condiments like soy sauce, pickles, olives, or ketchup.
- Avoid processed meats (cold cuts, sausages, bacon, etc.)—these are filled with salt and linked to some cancers.
- Leave off the cheese (which is high in sodium, saturated fat, and cholesterol).
- Eat your salad or veggies first so that you fill up on nutritious foods with fewer calories.
- If there aren't healthy main dishes on a menu, look at the side dish and salad options and order a couple to serve as a meal.
- Ask for what you want—this can include using less or no added oil or salt, excluding an ingredient, or substituting with a healthier item (e.g., substitute salad for fries or tomato sauce for cream sauce).
- Ask for added vegetables in dishes that don't have them (or don't have many vegetables). An example would be to add broccoli or mixed sautéed vegetables to a pasta or noodle dish. You can also do this at home!
- Avoid chain fast-food or fast-casual restaurants. If this isn't possible, look online at the restaurant's Nutrition Facts information to identify a few healthy choices at the place(s) you frequent.
- Look for items made mostly or entirely with whole, plant foods—like vegetables, fruits, whole grains, and legumes—using healthy cooking techniques.
- Opt for whole grains instead of white or refined grains or breads.
- Ask the server to take away the bread basket (or not to bring it in the first place) if it isn't whole grain bread.
- If your meal is large, ask for a take-out container and pack away half (or more) of your meal at the start so that you're not tempted to over-eat to clear the plate. This also makes two meals out of one!
    - You can also ask for a half- or appetizer-sized portion instead of a full-sized portion. This often helps reduce the price of the meal as well!
- Split a meal with someone else.
- For dessert, have fresh fruit or a small piece of dark chocolate. Alternatively, order a bite-sized dessert or split a single dessert with others.

Show Me the Sugar!

SUGAR HAS MANY NAMES

Sugar comes in many forms. Here are some common names for sugar in the Ingredients list:

Barley malt
Brown sugar
Cane juice
Corn syrup
Dextrose
Fructose
Glucose
Sucrose
High fructose corn syrup
Honey
Maltodextrin
Maple syrup
Molasses
Powdered sugar
Raw sugar

FIND THE SUGAR

To find out how much sugar is in that package, check the **Nutrition Facts** label on the package. Look for the word **Sugars** to see how much sugar is in the item per serving.

To find the forms of sugar, check the **Ingredients**.

Nutrition Facts

Serving Size 1 bar
Servings Per Container 6

Amount Per Serving	
Calories 150	
	% Daily Value *
Total Fat 2.5g	**4%**
Saturated Fat 0 g	
Trans Fat 0 g	
Sodium 85 mg	**4%**
Total Carbohydrate 30 g	**10%**
Sugars 12 g	
Protein 3 g	**6%**

*Percent Daily Values are based on a 2,000 calorie diet.

INGREDIENTS:

Oat bran, rice, **corn syrup**, **sugar**, **fructose**, whole grain rolled oats, **dextrose**, oat and fruit clusters (toasted oats [rolled oats, **sugar**, soybean oil, **honey**, **molasses**] **sugar**, rolled oats, strawberry flavored apples, **corn syrup**, **brown sugar**, natural and artificial flavors), **high fructose corn syrup**, vegetable oil, contains 2% or less of potassium chloride, **brown sugar**, sorbitol, malt flavoring, natural and artificial flavor, salt, nonfat dry milk, whole wheat flour, vitamin A, B6, riboflavin, folic acid, vitamin B12.

This material was produced by the California Department of Public Health's *Network for a Healthy California* with funding from the U.S. Department of Agriculture's (USDA) Supplemental Nutrition Assistance Program-Education, known in California as CalFresh. CalFresh provides assistance to low-income households and can help buy nutritious food for better health. For CalFresh information, call 1-877-847-3663. For important nutrition information, visit www.CaChampionsForChange.net.

Calculating How Much Sugar is in a Container

CALCULATION:
Grams of Sugar ÷ 4 = Teaspoons of Sugar

Nutrition Facts

Serving Size 20 fl. oz. (591ml)

Servings Per Container 1

Amount Per Serving	
Calories 250	
	% Daily Value*
Total Fat 0 g	**0%**
Sodium 55 mg	**2%**
Total Carbohydrate 68 g	**23%**
Sugars 69 g	
Protein 0 g	**0%**

Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A, vitamin C, calcium and iron.

*Percent Daily Values are based on a 2,000 calorie diet.

68 Grams of Sugar ÷ 4 = 17 Teaspoons of Sugar

Note: If the container has more than one serving, multiply the number of teaspoons by the number of servings to get the Total Teaspoons of sugar in the container. For example, 10 teaspoons x 2 servings = 20 Total Teaspoons.

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Calorie Density—The key to not feeling hungry

What is Calorie Density?

Calorie density is the number of calories per a given weight of food. Most of the time, calorie density is calculated as Calories per 100 grams of food. While memorizing the exact calorie density of foods is unnecessary, being familiar with which types of foods are comparatively high and low in calories is important. Calorie density is related to the amount of water and fiber in food—the more water and fiber, the fewer calories per volume of food. Note: Foods high in water and fiber content are also generally high in nutrient density (i.e., are good sources of vitamins, minerals, and phytonutrients) as well.

The following chart gives some types of foods that are low, moderate, and high in calorie density.

Low Calorie Density
Non-starchy Vegetables*
Fruits
Moderate Calorie Density
Starchy Vegetables**
Whole grains
Beans, Legumes
Plant-based Dairy Substitutes
Low-fat Dairy
Lean Proteins
High Calorie Density
Nuts & Seeds
Higher Fat Meats
Cheese & Full-fat Dairy
Liquid fats (oils)
Solid fats

Note: table shows a variety of food categories for reference, not just those emphasized in a WFPB diet.
**Non-starchy vegetables include peppers, leafy greens, broccoli, cauliflower, zucchini, tomatoes, celery, herbs, onions, mushrooms, eggplant, etc.*
***Starchy vegetables include corn, peas, butternut squash and other winter squashes, potatoes, carrots, parsnips, and other root vegetables, etc.*

Calorie Density—The key to not feeling hungry

Leveraging Calorie Density to help meet your weight goals:

To lose weight without feeling hungry, try to make most of your food choices low or moderate in calorie density. Those trying to maintain weight should still base their diet on low- and moderate-calorie density foods but can incorporate more high-calorie density options than those trying to lose weight. For those needing more calories or to gain weight, incorporate more high-calorie density options—nuts and seeds, avocados, and olives being the healthiest among the options. Doing this will allow you to meet weight loss, maintenance, or gain goals without feeling overly hungry or full.

To illustrate how this works, Forks Over Knives has created a great illustration comparing how full one's stomach might be after ingesting 500 Calories of food of varying calorie densities.

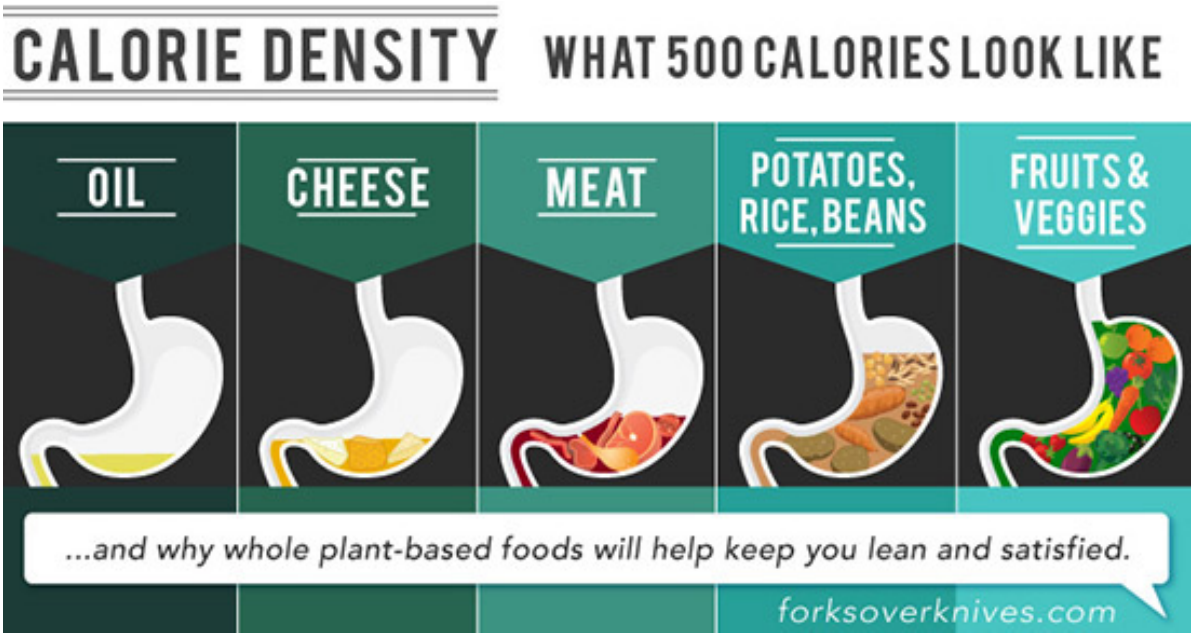


Image courtesy of Forks Over Knives

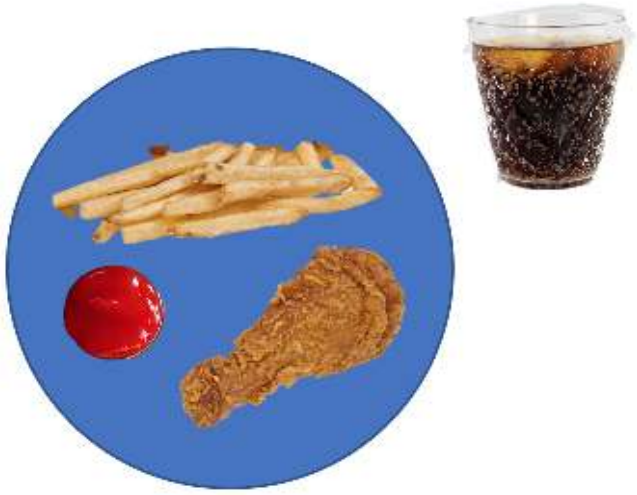
Calorie Density—The key to not feeling hungry

Comparing High and Low Calorie Density Meals:

The plates shown below are examples of low- and high-calorie density meals. Notice how much more filling the low calorie density meal appears. (Also note that the high calorie density meal represents foods typical in a Standard American Diet while the low calorie density meal is made of foods aligned with a WFPB diet.

Meal with HIGH Calorie Density (500 Calories)

1 fried chicken drumstick
1 small order of fries
1 packet ketchup
4 oz. cola (1/3 can)



Meal with LOW Calorie Density (500 Calories)

3 bean & vegetable croquets
½ cup brown rice pilaf
1 small side salad with 1 tsp dressing
½ cup fresh fruit
1 large glass unsweetened iced tea

Eating Mindfully, Not Mindlessly

What does it mean to eat mindlessly?

Eating mindlessly happens when one is not paying attention to how hungry they are, how much they're eating, or why they're eating. This usually goes along with overeating or eating foods that are less healthy than one would pick if they were paying close attention. Mindless eating can happen when you're distracted by something else such as TV, other technology, or dinner companions.

Mindfulness

Mindfulness is the act of focusing on the present moment and accepting the bodily sensations, thoughts, and feelings experienced in that moment. Mindfulness can be applied to many aspects of life, and can help to bring relaxation, focus, or clarity to a task at hand.

Mindful Eating

Mindfulness applied to eating is called mindful eating. It occurs when one uses all of their senses to appreciate the food they are eating and pays attention to their hunger cues. Practicing mindful eating can help one to enjoy food more fully, while paying attention to satiety cues. This in turn can help with weight management.

What can you do to prevent mindless eating?

- Avoid distracted eating
- Don't graze
- Make sure that indulgences are infrequent—have a plan to eat healthy at restaurants or celebrations when you might otherwise be tempted to overeat
- Choose plates, bowls, and cups that hold smaller amounts of food (e.g., try a 9- or 10-inch dinner plate instead of a 12-inch plate.)
- Eat slowly and chew thoroughly
- Note whether you have physical hunger versus emotional "hunger". Find non-food ways to cope with emotional eating.

Eating Mindfully, Not Mindlessly

Practice Mindful Eating

- Eat all meals at a designated place, such as a table, while sitting down and relaxing.
- Avoid distractions—don't try to do or watch other things while eating.
- Take deep breaths and avoid judgment of yourself and your reaction to food when you eat.
- Take small bites; chew slowly and thoroughly.
- As you eat, frequently check in with your body and notice feelings of hunger or fullness and use these as a guide for when to stop eating.
- Use all of your senses while eating.

Try the following mindful eating exercise with a raisin or piece of chocolate:

- **LOOK:** Look at your food, letting your eyes explore and take in the colors and textures of the food. Imagine you are from another planet and this is the first time you've ever seen the foods.

- **TOUCH:** Hold a piece of food in your hand. Move it around, exploring how it feels in your hand.

- **SMELL:** Close your eyes and hold the food under your nose and inhale. Note the different aromas. Does your mouth water? Is your stomach preparing to eat?

- **TASTE:** Place the food in your mouth, but don't swallow it yet. Notice how your hand knew just how to get to your mouth. Notice what happens to the food as you salivate. Move the food around in your mouth without chewing and note the flavors that are released. Try to stay focused. If other thoughts come to mind, note them without judgment and then return your thoughts to the exercise.

- **LISTEN:** Finally, begin to chew and note the sound the food makes as you chew. Also pay attention to how the flavors of the food change. Note your desire to swallow the food. Go ahead and swallow, noting the sounds you hear and the feelings experienced as the food leaves your mouth and travels to your stomach.

Oil Smoke Points

What is the smoke point?

The **smoke point** generally refers to the temperature at which a cooking fat or oil begins to break down to glycerol and free fatty acids. The glycerol is then further broken down to acrolein which is a component of the bluish smoke that is produced at the smoke point. It is the presence of the acrolein that causes the smoke to be extremely irritating to the eyes and throat. The smoke point also marks the beginning of both flavor and nutritional degradation. Therefore, it is a key consideration when selecting a fat for cooking and frying, with the smoke point of the specific oil dictating what maximum temperature, and therefore what purposes a particular fat may be used for. For instance, stir-frying is a very high temperature process requiring a fat with a high smoke point. Low smoke point oils (those under 350°F) are generally not heated.

When will oils catch on fire when overheated?

Considerably above the temperature of the smoke point is the **flash point**; the point at which combustion (aka. fire) occurs. Fire will also occur when oil is accidentally poured/splattered into a flame.

Nutrient and health considerations

The smoke point of various fats is important to note because a fat is no longer safe for consumption after it has exceeded its smoke point and has begun to break down. Once a fat starts to smoke, it usually will emit a harsh smell and fill the air with smoke. In addition, fats that have gone past their smoke points contain large quantities of free radicals which contribute to risk of cancer.

Refined oils

Refining oils (taking out impurities, volatile oil, and often a lot of flavor) tends to increase the smoke point.

The table below lists some ballpark values for smoke points of various common fats.

Fat	Smoke Point	
Flax seed oil, Unrefined	225˚F	107˚C
Safflower oil, Unrefined	225˚F	107˚C
Sunflower oil, Unrefined	225˚F	107˚C
Corn oil, Unrefined	320˚F	160˚C
Peanut oil, Unrefined	320˚F	160˚C
Safflower oil, Semirefined	320˚F	160˚C
Soybean oil, Unrefined	320˚F	160˚C
Sunflower oil (High Oleic), Unrefined	320˚F	160˚C
Walnut oil, Unrefined	320˚F	160˚C
Hemp oil	330˚F	165˚C

Oil Smoke Points

Fat	Smoke Point	
Butter	350°F	177°C
Coconut oil, Unrefined	350°F	177°C
Sesame oil, Unrefined	350°F	177°C
Soybean oil, Semirefined	350°F	177°C
Vegetable shortening	360°F	182°C
Lard	370°F	182°C
Olive oil, Extra Virgin	375°F	191°C
Walnut oil, Semirefined	400°F	204°C
Olive oil, Low Acidity Extra Virgin	405°F	207°C
Macadamia oil	413°F	210°C
Almond oil	420°F	216°C
Cottonseed oil	420°F	216°C
Grapeseed oil	420°F	216°C
Olive oil, Virgin	420°F	216°C
Hazelnut oil	430°F	221°C
Coconut oil, Refined	450°F	232°C
Corn oil, Refined	450°F	232°C
Peanut oil, Refined	450°F	232°C
Sesame oil, Semirefined	450°F	232°C
Soybean oil, Refined	450°F	232°C
Sunflower oil, Semirefined	450°F	232°C
Sunflower oil, Refined	450°F	232°C
Palm oil, Fractionated	455°F	235°C
Olive oil, Pomace (aka. Light)	460°F	238°C
Canola oil, Expeller Pressed	464°F	240°C
Olive oil, Extra Light	468°F	242°C
Canola oil, Refined	470°F	240°C
Canola oil, High Oleic	475°F	246°C
Ghee (aka. Clarified Butter)	485°F	252°C
Rice bran oil	490°F	254°C
Safflower oil, Refined	510°F	266°C
Avocado oil	520°F	271°C

Appendices

Appendix 1—Potluck Sign-up Sheet for Final/Class Session # 9

Potluck Sign-up Sheet:

Have students, instructors, and any other faculty heavily involved in the course (we recommend only people students are familiar with as this is a very personal session) to sign up for which dish they'll bring well in advance. Below is an example grid to fill out so that you end up with a relatively balanced meal. It is recommended that students sign up first and then instructors/other faculty fill in any gaps (there are more slots than students to given them all options for the type of dish they wish to bring), but not so many slots that you end up with all desserts or all mains.

Menu		
Name	**Type of Dish**	**Name of Dish**
	Appetizer	
	Appetizer	
	Soup	
	Soup	
	Bread/Grain	
	Salad	
	Salad	
	Side dish	
	Side dish	
	Main dish	
	Main dish	
	Main dish	
	Dessert	
	Dessert	
	Beverage	
	Beverage	

Appendix 2—Portable Pop-Up Teaching Kitchen Equipment List

The following example works for 12 participants working in 6 groups, plus an instructor demo station.

*Make sure as many items as possible are NSF-rated and dishwasher safe.
*Must wash items in commercial dishwasher or 3-compartment sink per Serve-Safe Sanitation protocol

Checklist of items (most items can be stored in the tubs listed):

- Folding cart that can hold at least 2-3 storage bins
- Bungee cords long enough to connect to cart and wrap all the way around the storage bins to secure them to the cart for safe transport
- 12- to 18-gallon storage bins (4-6)
- Bus tubs for dirty dishes (2-4)
- Broom, dustpan, mop/Swiffer WetJet or Wet + Dry
- Paper towels
- Disinfectant wipes
- Hand sanitizer (2-3 bottles)
- Gloves, medium and large sizes (non-latex)
- Mini first aid kit: gloves, Band-Aids, finger cots, cleansing wipes, burn cream, hair ties for anyone with long hair)
- Paper salad plates or 5-8 oz disposable cups for tasting-sized servings
- 10-in disposable plates & disposable bowls if having meal-sized servings
- Disposable cups for meals (or ask participants to bring their own water bottles)
- Containers or heavy-duty Ziplock bags for leftovers to take away
- Plastic wrap
- Parchment paper
- Aluminum Foil
- Utensils for tasting (spoons, forks, butter knives, as needed)
- Tasting spoons (to use while cooking)
- Garbage bags
- Induction burners—7 for hot items if everyone cooks, or just 1 if only demonstrating hot items
- Can opener
- Assorted mixing bowls (0.75, 1.5, 3, 5, 8 qt sizes are useful but not all are needed for each kit; aim for 1 larger and 1 smaller mixing bowl per kit)
- 12” x 18” cutting boards (7)
- Non-slip mats for cutting boards (7)
- 8” chef’s knives (7)
- 8” knife blade guards (7)
- 3-1/2” or 4” paring knives (7)
- 4” knife blade guards (7)
- 10-12” high heat silicone spatulas (7)
- 11-13” basting spoons (7)
- 11-13” slotted basting spoons (7)
- 10-12” stainless steel piano whisks/whips (7)
- 12” stainless steel tongs (7)
- Ladles (2-3)
- 11-14” high-heat nylon turner (or stainless steel with temperature safe handle) (7)
- 4-piece measuring cup set (1-cup, ½ cup, 1/3 cup, ¼ cup) (7)
- 4-piece measuring spoon set (1 tbsp, 1 tsp, ½ tsp, ¼ tsp) (7)
- 9” heavy-duty stainless steel, 4-sided box grater (2-3)
- Bowl/bench scrapers (7)

Portable Pop-Up Teaching Kitchen Equipment List (continued)

Vegetable peelers, Y-style or swivel (stainless steel blades) (7)
~8" Fine mesh strainers (2-3)
2- or 3-quart saucepans with lids (must work with induction burners) (7)
10-12" sauté pans (7)
6- or 8-quart stockpots with lids (generally only for pasta) (2)
Salad spinner (1-2)
Food processor
Blender
Aprons (1/participant, generally 14 for 12 students + 2 instructors)
Kitchen towels (14, 2 per station including instructor station)

Optional, Nice to have items

Oven
Sheet pans
Parchment paper (for sheet pans/baking)
Wine opener, optional (if needing to open corked items)
Steel (for knives)
Knife sharpener (for upkeep of knives, allows use of inexpensive knives)
Electric grill/griddle–can be used in the roasting class to teach how to grill in lieu of roasting if no ovens are available in the kitchen/teaching space you plan to use.

Appendix 3—Common Safety Requirements for Teaching Kitchens

- ServSafe Food Handler Certificate (https://www.servsafe.com/) is a must for at least one instructor present—this instructor can "train-the-trainer" for other instructors—to prevent food-borne illness.
- A commercial dishwasher or 3-compartment sink is required for dishwashing. The compartments include soapy water, rinse water, and sanitizing water, with an adjacent space to dry dishes. If you don't have the appropriate sink, 3 tubs of water can often be substituted for the sink or ask your kitchen facilities if you can wash dishes in their sinks or dishwasher.
- Hair must be up or covered with a cap/net; provide as students will likely forget to bring their own sometimes
- Closed-toed shoes to prevent burns/cuts on feet
- Non-skid shoes and no heels on tile or other floor surfaces that are slippery when wet
- No dangling jewelry or sleeves which could fall into food or catch fire, respectively
- All drinks must be in covered containers and kept away from food while cooking
- Fire extinguisher must be available if cooking with heat and fire codes for the institution and locality must be adhered to
- Injuries: the most likely injuries are cuts and minor burns (though these are uncommon if following safety rules).
    - Make and keep a basic first aid kit handy and stocked with gloves, cleansing wipes, finger cots, various sized Band-Aids and burn cream.
    - Know what to do and where to send students or faculty should they get injured. If cut, make sure to let the injured party know to check that they're up to date on their tetanus vaccination. Consider creating and having students and faculty sign waivers acknowledging risk of cuts, burns, and more remote potential kitchen harms pertaining to the space, equipment, and chemicals in use.

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