



Nutrition and Integrative Health Curriculum September 2011

YEAR ONE

Trimester 1 (Fall)		Credits
ISci 632	Foundations of Health and Wellness	3
NUTR 601	Redefining Nutrition	1
NUTR 611	Human Nutrition I: Macronutrients	3
NUTR 681	Cooking with Whole Foods Lab I	.5
Total		7.5

Trimester 2 (Spring)		Credits
ISci 626	Nutritional Biochemistry	3
NUTR 651	Practitioner Skills I	2
ISci 645A	Wellness Physiology I	2
NUTR 671	Food and Culture	1
NUTR 682	Cooking with Whole Foods Lab II	.5
Total		8.5

Trimester 3 (Summer)		Credits
ISci 645B	Wellness Physiology II	2
NUTR 612	Human Nutrition II: Micronutrients	3
NUTR 683	Cooking with Whole Foods Lab III	.5
Total		5.5

YEAR TWO

Trimester 4 (Fall)		Credits
NUTR 622	Advanced Nutritional Biochemistry and Assessment	3
NUTR 641	Life Cycle Nutrition	3
ISci 733A	Applied Statistics	1.5
NUTR 684	Cooking with Whole Foods Lab IV	.5
Total		8

Trimester 5 (Spring)		Credits
NUTR 631	Therapeutic Diets I	2
ISci 733B	Applied Research Skills	1.5
NUTR 672	Nourishment	2
NUTR 652	Practitioner Skills II	2
NUTR 685	Cooking with Whole Foods Lab V	.5
Total		8

Trimester 6 (Summer)		Credits
NUTR 653	Practitioner Skills III	2
NUTR 632	Therapeutic Diets II	2
NUTR 654/NUTR 691	Practicum/Alternative Practicum	2
NUTR 686	Cooking with Whole Foods Lab VI	.5
Total		6.5
Elective		3

Total Program Credits: 47

Sample Selection of Elective Courses

		credits			
ISci 623	Biology & Ecobiology	3	HRB 604	Frequently Used Herbs: Understanding for the Health Professional	3
ISci 624	Chemistry, Elements of Wellness	3	HRB 618	Herbs for Home Use: Living in Harmony with the Seasons	3
ISci 655	Holistic Medicine	3	NUTR 661	Practice Management	1
ISci 733	Research in Complementary Medicine	3	Courses in Development		credits
ISci 601	Language & History of Medicine	3	Chinese Nutrition		1
ISci 634	Sensory Physiology	3	Food Science and Technology		3
ISci 615	Mind Body Science	3	Advanced Food Service Management		3
ISci 625	Molecular & Cell Biology	3	Celiac and Gluten Sensitivity		1
ISci 730	Integrating Approaches for Care of the Whole Person	0.5	Sports Medicine		1
ISci 621	Physics & Energy	3	Energetics of Food		1
ISci 652	The Body's Defenses	3	Food Systems and Policies		3
ISci 633	Fundamentals of Botanical and Nutritional Supplements	3			



Course Descriptions

ISci 632: Foundations of Health and Wellness

3.0 credits

This course addresses modern, historical, and cross-cultural perspectives on health, wellness, and sickness. Health and wellness of the individual is discussed in a context ranging from the planetary to the molecular level. Emphasis is placed on understanding the biological basis of health and wellness practices as well as the use of language in creating life-affirming narratives. As part of this course, students will engage in their own health-supportive practices and develop a deeper personal commitment to wellness.

NUTR 601: Redefining Nutrition

1.0 credit

This course re-defines the assumptions of “nutrition.” It sets a foundation of thinking and language from which students can build a philosophical framework for this program. Students are invited to explore new ways of thinking about food and health. Reductionism and (w)holism are addressed. The concept of nourishment is explored. A common vocabulary will be established. Students investigate the interconnected network of body, mind, emotion, and spirit as it relates to food, healing, and wellness.

NUTR 611: Human Nutrition I: Macronutrients

3.0 credits

This course covers the macronutrients — carbohydrates, lipids (including essential fatty acids) and proteins. Macronutrients are considered from digestion, absorption, and transport to metabolism and storage. Energy metabolism during fasting, fed-state and exercise are considered. Students will examine macronutrients within the context of whole foods. Students become proficient in a variety of diet analysis methods, including food frequency and diet history questionnaires. They use diet analysis software effectively to critically analyze case study data and to conduct comparative analysis of macronutrients in a variety of diets.

NUTR 681: Cooking with Whole Foods Lab I

0.5 credits

The Cooking with Whole Foods courses will require active participation and discussion. Each class will make at least two recipes for tasting. The recipes will reflect the class topics and will include discussion of the food properties for health. Lab I will cover essential food service skills including organization, equipment, and measuring. This course also will cover whole foods cooking with a focus on greens, grains, and beans.

ISci 626: Nutritional Biochemistry

3.0 credits

Prerequisite: ISci 521

This course presents an overview of nutritional biochemistry. Students will be acquainted with biochemical individuality and genetic uniqueness, and the basics of molecular biology. Bioenergetics, energy metabolism, advanced metabolism of carbohydrate, lipids and proteins, and detoxification (Phases I, II and III) are reviewed. The influence of nutrients in these reactions is emphasized. Students will be introduced to interpretation of clinical laboratory evaluations (blood and tissue). Students also will become acquainted with current concepts, knowledge, and strategies for understanding nutritional genomics, as well as become aware of specific food components that alter gene structures or expression.

NUTR 651: Practitioner Skills I

2.0 credits

Prerequisite: ISci 632

This course continues to build on the philosophical underpinnings of health and wellbeing first explored in Foundations of Health and Wellness. By observing their own ways of being, doing and speaking, students begin to embody the practices that guide them in becoming a powerful healing presence and a catalyst for change in others. Practical application will be emphasized.

ISci 645A: Wellness Physiology I

2.0 credits

In this course, students will learn the physiological theory supporting the practice of competent, safe, and effective nutritional medicine within the context of a biopsychosocial wellness model. Students will become familiar with foundational physiological processes and relevant anatomy, including digestion and assimilation; biotransformation and elimination; circulation; protection and defense; tissue repair and maintenance; and information flow.

NUTR 671: Food and Culture

1.0 credit

In this course, the student will study the relationship of people, food, and health throughout history (using the research of Weston Price, and cultural anthropologists) and in various traditional systems (including Traditional Chinese Medicine, and Ayurveda). The energetics of foods will be explored, and students will explore personally a traditional diet and report on their experience.



NUTR 682: Cooking with Whole Foods Lab II

0.5 credits

Prerequisite: *NUTR 68 I*

Lab II will cover whole foods cooking with a focus on use and balancing of macronutrients, expansive/contractive and acid/alkaline foods, and cooking without sugar and artificial sweeteners. The class will discuss how to adjust favorite recipes to fit these criteria.

ISci 645B: Wellness Physiology II

2.0 credits

Prerequisite: *ISci 645A*

Building on the foundational physiology from ISci 645A, this course explores physiological processes in relationship to behavioral and environment inputs as well as the rhythms of life. Inputs such as physical activity, social networks, xenobiotics, microorganisms, diet, and sunlight are explored with a focus on health-promoting adaptive responses and the specific physiological pathways that each influences. Circadian and seasonal patterns in physiology are also discussed along with a review of the life cycle.

NUTR 612: Human Nutrition II: Micronutrients

3.0 credits

Prerequisite: *NUTR 6 I I*

This course covers structure, function, and food sources of the micronutrients (vitamins, macronutrients, micronutrients, and trace minerals, and various phytochemicals and zoochemicals). The complex function of each nutrient is reviewed, along with interactions, excesses, deficiencies, and supplementation. The concept of synergy is explored as students examine the micronutrients in the context of a whole foods diet. Students will use a variety of methods to compare the micronutrient content of diets.

NUTR 683: Cooking with Whole Foods Lab III

0.5 credits

Prerequisite: *NUTR682*

Lab III will cover feeding the sensitive person, including gluten-free, allergen-free, dairy-free meals.

NUTR 622: Advanced Nutritional Biochemistry and Nutritional Assessment

3.0 credits

Prerequisite: *ISci 626*

This course builds on the foundation of Nutritional Biochemistry (ISci 626), exploring more advanced and complex issues surrounding normal and abnormal metabolism of carbohydrate, lipid, and protein. Students will analyze case studies and demonstrate competence in the selection and interpretation of laboratory assessments for nutrients, enzyme assays, abnormal metabolites, loading tests, and challenge tests.

NUTR 641: Life Cycle Nutrition

3.0 credits

Prerequisite: *NUTR 6 I 2*

This course explores the changes in human nutrition through the life cycle stages from pre-conception through elder years. Students will examine health challenges that substantially impact nutrition at these developmental and life stages. Students will be knowledgeable about federal, state, or local programs, which provide support for food or nutrition education at various life cycle stages. Students will learn to assess adequacy of diets as well as design diets to meet needs during various life cycle stages. Case studies, menu planning, and diet assessment will be incorporated.

ISci 733A: Applied Statistics

1.5 credits

This course is a practice-based study of descriptive and inferential statistics, biostatistics, and nutritional epidemiology to develop students' skills to support critical analysis of nutrition science and public health studies.

NUTR 684: Cooking with Whole Foods Lab IV

0.5 credits

Prerequisite: *NUTR 683*

Lab IV will cover planning and preparing meals from a variety of different traditions, such as Indian, Raw Foods, Chinese Dietary Theory, and fermented foods.

NUTR 631: Therapeutic Diets I

2.0 credits

Prerequisite: *NUTR 6 I 2*

Within the biopsychosocial model of health and wellness, condition-specific nutrition therapy for a wide range of medical conditions will be covered, including heart disease, diabetes, blood lipids, obesity and weight loss, eating disorders, and food addiction. The pathophysiology, epidemiology, and conventional approach to each condition will be explored, along with



therapeutic approaches that incorporate whole foods and nutritional supplementation within the broader context of health inputs. Drug-nutrient reactions will be addressed.

ISci 733B: Applied Research Skills

1.5 credits

Prerequisite: ISci 733A

The course expands on the Applied Statistics course. Students develop skills in researching databases, critical reading and analysis of nutrition science and other relevant journals, and effective science writing. Each student will prepare an annotated bibliography and present a formal seminar to the class.

NUTR 672: Nourishment

2.0 credits

This course is designed for the student to explore his/her relationship to food from a psycho-spiritual perspective, to explore many of the cultural and familial messages that one carries, and to identify personal patterns around eating. Students will practice the concept of mindfulness as it relates to eating.

NUTR 652: Practitioner Skills II

2.0 credits

Prerequisite: NUTR 651

While continuing to cultivate their healing presence, students develop essential skills such as active listening and motivational interviewing in order to educate and empower clients toward health behavior changes. Client interview techniques and questionnaires are explored within the framework of patient-centered health care. The developing practitioner continues to hone observational skills through practical application.

NUTR 685: Cooking with Whole Foods Lab V

0.5 credits

Prerequisite: NUTR 684

Lab V will be a Food Pharmacy class. Herbs and food will be used to make home remedies for medicinal use for a variety of conditions such as headaches, fevers, colds, sore throats, earaches, skin problems, and digestive problems.

NUTR 653: Practitioner Skills III

2.0 credits

Prerequisite: NUTR 652

Practitioner Skills III focuses on nutritional assessment. Building on Practitioner Skills II, students will learn to analyze dietary records and strategize treatment plans. Physical examination, anthropometric methods, and laboratory assessment will be reviewed. The new practitioner will continue to develop interpersonal skills and apply knowledge to real-life clinical situations.

NUTR 632: Therapeutic Diets II

2.0 credits

Prerequisite: NUTR 631

Within the biopsychosocial model of health and wellness, condition-specific nutrition therapy for a wide range of medical conditions will be covered, including gastrointestinal disorders, food allergies and sensitivities, fertility, autoimmune disease, and cancer. The pathophysiology, epidemiology, and conventional approach to each condition will be explored, along with therapeutic approaches that incorporate whole foods and nutritional supplementation within the broader context of health inputs. Drug-nutrient reactions will be addressed.

NUTR 654: Practicum

2.0 credit

Must have completed at least 30 credits in the program.

This practicum is designed to give students hands-on “practice” in nutritional counseling. It gives them the opportunity to hone their clinical skills in order to practice nutrition safely, effectively and competently. The faculty-supervised clinic provides students with a supportive environment that builds the confidence and proficiency to begin independent practice upon graduation. Students apply all their learning—from biochemistry to assessment—to the application of healing presence. Students are evaluated individually and have a group experience of learning with their fellow students.

OR

NUTR 691: Alternative Practicum

2.0 credit

Must have completed at least 30 credits in the program.

If a student intends to graduate the program with a different focus than clinical work, the student may propose an alternative practicum. If the proposal is approved, under faculty supervision, the student may do a research-based practicum, which would involve the writing of a thesis, or a community or education-based practicum or other approved form of applied project.

NUTR 686: Cooking with Whole Foods Lab VI

0.5 credits

Prerequisite: NUTR 685

Lab VI is for each student (in teams) to demonstrate their whole foods cooking skills by designing and creating a meal for the group.