

Course Bulletin

100869	Prin Of Physiology
Subject: CRSK	Catalog Nbr: 166

101370	Gene Exp In Eukaryotes
Subject: CRSK	Catalog Nbr: 212B

101722	Graduate Pathobiology
Subject: CRSK	Catalog Nbr: 293G

101800	Muscle Physiology
Subject: CRBU	Catalog Nbr: 592

101892	Adv Anatomy/physiology
Subject: CRBU	Catalog Nbr: 701A

102187	Human Physiology
Subject: CRBR	Catalog Nbr: 42A

102313	Exercise Physiology
Subject: CRBU	Catalog Nbr: 731

102358	Prin Of Biochemistry
Subject:	Catalog Nbr:

Course Bulletin

CRBU	223
------	-----

102763	Principles Of Biostatics
---------------	---------------------------------

Subject:	Catalog Nbr:
CRMD	202

102794	Public Health Politics
---------------	-------------------------------

Subject:	Catalog Nbr:
CRMD	203

102830	Interm Biostatistics
---------------	-----------------------------

Subject:	Catalog Nbr:
CRMD	206

102865	Epidemiologic Methods
---------------	------------------------------

Subject:	Catalog Nbr:
CRMD	207

102915	Adv Prof Communication Emerson College
---------------	-----------------------------------------------

Subject:	Catalog Nbr:
CRMD	500

102952	Public Health/care Health Communications
---------------	-------------------------------------------------

Subject:	Catalog Nbr:
CRMD	503H

102979	Population Dynamics
---------------	----------------------------

Subject:	Catalog Nbr:
CRBU	881H

Course Bulletin

103167	Communication Theory Emerson College			
	Subject:	Catalog Nbr:		
	CRMD	520		

103291	Emerson College Media Strategies/health			
	Subject:	Catalog Nbr:		
	CRMD	579		

103349	Dir Std:public Relations			
	Subject:	Catalog Nbr:		
	CRMD	585Q		

103423	Writing For Press Emerson College			
	Subject:	Catalog Nbr:		
	CRMD	CS55		

107606	Economic Development			
	Subject:	Catalog Nbr:		
	CRFL	E231		

122478	Physical Activity, Nutrition, And Health			
	Subject:	Catalog Nbr:		
	NUTR	0272		
	2014 SPRG	Primary	Miriam Nelson	miriam.nelson@tufts.edu
	2015 SPRG	Primary	Jennifer Sacheck	jennifer.sacheck@tufts.edu
<p>Inadequate physical activity and a sedentary lifestyle are thought to be important causes of many of the major diseases of developed societies, including coronary artery disease, stroke, hypertension, diabetes, obesity, osteoporosis, and arthritis. There has been an explosion of information over the past two decades on the health benefits of exercise. In addition, exercise and nutrition are closely linked, with each modifying the effects of the other. Athletes, for example, may have markedly increased needs for some nutrients, but not others. Exercise has potent effects on the metabolism of protein, energy, fat, and some micronutrients. In addition, exercise is an important form of oxidative stress, and the ability of nutrients to alter the effect of</p>				

Course Bulletin

exercise is not well understood. Exercise and nutrition together offer an extremely powerful intervention for a variety of problems, including the frailty of aging, the wasting of AIDS, and the obesity that underlies most cases of diabetes and atherosclerosis. This course is designed to give students an understanding of the fundamental interactions between exercise and nutrition, and to offer students an opportunity to examine the application of nutrition to exercise and vice versa. Each lecture will also discuss how these factors are important in disease prevention, and where applicable, treatment.

122782	Globalization, Development And Humanitarianism: Ethics And Personal Transformation
Subject: NUTR	Catalog Nbr: 0279
<p>(Cross-listed as DHP D238 (Fletcher School)). This course challenges students to reflect on the moral and ethical ideas underpinning today's changing global interests and power. As we witness humanitarian crises and failed development efforts, we will consider ethical and moral values that support humanitarian and developmental interventions. We will consider the ethical implications that are inherent in the choice between justice and mercy, freedom and order and truth and loyalty. Students will analyze the moral and ethical underpinnings of ideas that promote new approaches to development and humanitarian action with a personal, academic and institutional perspective. Even as the world is coming closer together in the information age, divisions on the lines of regional, ethnic and religious identities continue to grow more pronounced and stark. This course will encourage students to articulate their personal beliefs and ethical values. As students move to become policy makers and stakeholders it is essential that they are grounded in an understanding of their own moral framework and also appreciate the differences that exist in their midst. Students will explore ideas of minimalist ethics, just wars, realists and liberal arguments around humanitarian and developmental intervention.</p>	

127008	General Nutrition
Subject: NRAK	Catalog Nbr: 0202

127043	Epidemiology: Nutr Profs
Subject: NRAK	Catalog Nbr: 0204

127080	Nutr Biochem I
Subject: NRAK	Catalog Nbr: 0205

Course Bulletin

127118	Statistical Methods
Subject: NRAK	Catalog Nbr: 0207

127151	Mgmt:nutr&health Ngos
Subject: NRAK	Catalog Nbr: 0208

127193	Monitoring & Evaluation
Subject: NRAK	Catalog Nbr: 0210

127213	Food Policy Fundamentals
Subject: NRAK	Catalog Nbr: 0211

127234	Nutrition Policy
Subject: NRAK	Catalog Nbr: 0212

127247	Nutr Comm In Glb Context
Subject: NRAK	Catalog Nbr: 0213

127265	Food Science Fundamental
Subject: NRAK	Catalog Nbr: 0219

127285	Global Nutritional Pgms
Subject:	Catalog Nbr:

Course Bulletin

NRAK	0227
------	------

127313**Dir Study:**

Subject:	Catalog Nbr:
NRAK	0297

127331**Masters Thesis**

Subject:	Catalog Nbr:			
NRAK	0300			
2013 FALL	Primary	Paul Giguere		No Email on file.

127368**Nutr Biochem II**

Subject:	Catalog Nbr:
NRAK	0305

127387**Adv Medical Nutr Therapy**

Subject:	Catalog Nbr:
NRAK	0316

128471**Foundations Of Nutr Sci**

Subject:	Catalog Nbr:			
NUTC	0200			
2014 FALL	Primary	Diane McKay		diane.mckay@tufts.edu

128489**Program Development and Delivery**

Subject:	Catalog Nbr:			
NUTC	0203			
2013 FALL	Primary	Marion Min-Barron		Marion.Min-Barron@tufts.edu
2013 FALL	Primary	Shibani Ghosh		Shibani.Ghosh@tufts.edu
2014 FALL	Primary	Erin Boyd		Erin.Boyd@tufts.edu

Course Bulletin

128508	Nutrition Related Consum Marketing				
	Subject: NUTC	Catalog Nbr: 0205			
		2014 SUMR	Primary	Rachel Cheatham	Rachel.Cheatham@tufts.edu
		2014 SUMR	Primary	Ashley Reynolds	Ashley.Reynolds@tufts.edu

128532	Program Monitoring And Evaluation				
	Subject: NUTC	Catalog Nbr: 0210			
		2014 SUMR	Primary	Jennifer Coates	jennifer.coates@tufts.edu
		2014 SUMR	Primary	Marion Min-Barron	Marion.Min-Barron@tufts.edu

128568	Theories of Behavior Change & their Application in Nutrition/Public Health Interventions				
	Subject: NUTC	Catalog Nbr: 0211			
		2014 SPRG	Primary	Kristie Hubbard	Kristie.Hubbard@tufts.edu
<p>This course explores the theories of behavior change most commonly used in nutrition and public health. Includes an examination of several individual-based, social-based, organization-based and eco-social theories, including the Health Belief Model, the Theory of Planned Behavior, the Trans-theoretical Model, Decision-Making, Social Support, Social Learning Theory, and Diffusion of Innovations. Knowledge of these theories will help inform the design of research and program interventions based on psycho-biological, social, cultural and organizational frameworks. The course emphasizes an understanding of core theory concepts and issues in measurement.</p>					

128591	Social Media For Nutrition Audiences				
	Subject: NUTC	Catalog Nbr: 0220			

128622	Pd Theories Methods Proc				
	Subject: NUTC	Catalog Nbr: 0318			

128667	Theories Of Pd				
---------------	-----------------------	--	--	--	--

Course Bulletin

Subject:	Catalog Nbr:
NUTC	0319

128687	Positive Deviance In Practice
---------------	--------------------------------------

Subject:	Catalog Nbr:
NUTC	0320

128785	Directed Study/undergrad
---------------	---------------------------------

Subject:	Catalog Nbr:
NUTR	0102

128948	Directed Study
---------------	-----------------------

Subject:	Catalog Nbr:
NUTR	0297

2013 FALL	Primary	Sara Folta	sara.folta@tufts.edu
2014 FALL	Primary	Susan Roberts	susan.roberts@tufts.edu
2014 FALL	Primary	William Masters	William.Masters@tufts.edu
2014 SPRG	Primary	Martin Obin	martin.obin@tufts.edu
2014 SPRG	Primary	Miriam Nelson	miriam.nelson@tufts.edu
2014 SPRG	Primary	Hugh Joseph	hugh.joseph@tufts.edu
2014 SPRG	Primary	Nicola McKeown	nicola.mckeown@tufts.edu
2014 SPRG	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu
2014 SUMR	Primary	Lynne Ausman	lynne.ausman@tufts.edu
2014 SUMR	Primary	Caren Smith	Caren.Smith@tufts.edu

Directed Study is a mechanism for a student to receive academic credit for work completed under the tutelage of a faculty member. This is generally done on a one-to-one basis with the student taking major responsibility for his/her progress. Research conducted in a laboratory during a Directed Study project can be either problem-oriented or technique-based. Directed Studies must be supervised by Friedman School faculty. Students must register for a Directed Study using the online form.

129095	Special Tps:study Abroad Nutrition
---------------	-------------------------------------------

Subject:	Catalog Nbr:
NUTR	0196

129117	Special Tps:study Abroad Nutrition
---------------	-------------------------------------------

Subject:	Catalog Nbr:
----------	--------------

Course Bulletin

NUTR	0197
------	------

129335	Scientific Principles Of Human Nutrition And Food			
Subject:	Catalog Nbr:			
NUTR	0202			
2014 FALL	Primary	Diane McKay	diane.mckay@tufts.edu	
<p>This course presents the fundamental scientific principles of human nutrition. Students will become familiar with food sources; recommended intake levels; biochemical role; mode of absorption, transport, excretion; deficiency/toxicity symptoms, and potential major public health problems for each macro- and micronutrient. The student goals for this course are: 1.) to describe the components of a healthy diet, 2.) understand the major nutrition problems that affect individuals and populations from conception and throughout the life cycle, and 3.) understand the scientific basis for nutritional recommendations brought before the scientific and lay communities.</p>				

129416	Fundamentals Of Public Policy			
Subject:	Catalog Nbr:			
NUTR	0203			
2013 FALL	Primary	William Masters	William.Masters@tufts.edu	
2014 FALL	Primary	Patrick Webb	patrick.webb@tufts.edu	
2014 FALL	Primary	Eileen Kennedy	Eileen.Kennedy@tufts.edu	
<p>Nutrition 203 is a course that will allow students at the Friedman School to become familiar with policy processes (domestic and international), typologies of policy initiatives (laws, regulations, program interventions, legal restrictions and systems, institutional mandates), and to be able to critically analyze and discuss how policy and science interact with regard to food and nutrition. The class will cover: a) how science influences the policy agenda, and how policy debates influence the scientific agenda; b) the scientific underpinnings of food and nutrition policies; c) how empirical findings in scientific research and operational programming make their way into policy and law; d) debates and controversies in US and international nutrition; e) the range of options for intervention that exist (to improve nutrition), and those that are used; f) how do we know what works best and what the alternatives might be?; g) approaches to problem assessment and measurement; h) success stories in the nutrition pantheon; i) constraints to success (what makes or breaks major program successes), and j) key institutions and organizations involved in nutrition policy and programming in the US and around the world.</p>				

129475	Principles Of Epidemiology			
Subject:	Catalog Nbr:			
NUTR	0204			
2014 FALL	Primary	Mark Woodin	mark.woodin@tufts.edu	
<p>(Cross-listed as CEE 154.) Methods that quantify disease processes in human populations. Topics include study design, sources of inaccuracy in experimental and observational studies, the methodology of data collection, and an introduction to the statistical evaluation of epidemiological data. Fall.</p>				

Course Bulletin

129491	Communicating Health Information To Diverse Audiences, Part A			
Subject: NUTR	Catalog Nbr: 0205	2015 SPRG	Primary	Patrick Skerrett Patrick.Skerrett@tufts.edu
The objective of this course is to learn to write articles and on the editing process; the other will focus on pragmatic issues such as choosing topics, judging sources, elements of successful writings, and how to "break in" to the popular press. Note: 10-week course. Enrollment limited to 12. This course was formerly listed as NUTR 201A.				

129583	Statistical Methods For Nutrition Research (policy)			
Subject: NUTR	Catalog Nbr: 0207	2014 FALL	Primary	Sean Cash Sean.Cash@tufts.edu
Part one of a one-year, two-semester course covering descriptive statistics, graphical displays, confidence intervals, hypothesis testing, t test, chi-square test, nonparametric tests, multiple linear regression, multiple logistic regression, experimental design, multi-factor and multiple comparisons procedures. Students will learn how to use Stata statistical analysis software. This course was formerly listed as NUTR 209A-02.				

129603	Human Physiology			
Subject: NUTR	Catalog Nbr: 0208	2015 SPRG	Primary	Paul Leavis paul.leavis@tufts.edu
This course meets the physiology requirement for students in the following programs: Human Nutrition, Nutritional Epidemiology, Cell and Molecular Nutrition. This course will cover the functions of mammalian organisms as we understand them at various levels of organization - organ system, organ, cellular and subcellular levels. Our goal is to provide a working knowledge of the fundamental properties and regulation of these systems so that the student can understand and relate this material to that learned in other basic science courses with particular emphasis on those related to nutrition.				

129664	Statistical Methods For Nutrition Research (science)			
Subject: NUTR	Catalog Nbr: 0209	2013 FALL	Primary	Gerard Dallal Jerry.Dallal@tufts.edu
The first of a two course sequence covering study design, descriptive statistics, graphical displays, confidence intervals, hypothesis testing, Student's t test, chi-square test, nonparametric tests, sample size calculations, multiple linear regression, multiple logistic regression, multi-factor experimental design, repeated measures, and multiple comparisons procedures. NUTR 209 generally covers topics through the start of linear regression. Students will make extensive use of SAS for Windows. NOTE: Students cannot receive credit for both NUTR 209 Statistical Methods in Nutrition Research (Science) and its second semester counterpart NUTR 207 Regression Analysis for Nutrition Research (Policy). This course was formerly listed as NUTR 209A-01.				

Course Bulletin

129679	Survey Research Nutrition			
Subject: NUTR	Catalog Nbr: 0210	2015 SPRG	Primary	Beatrice Rogers beatrice.rogers@tufts.edu
<p>A methods course focusing on field research in nutrition. How to identify policy-relevant issues, define hypotheses, and select and combine appropriate methods drawn from nutrition, epidemiology, anthropology, economics, psychology, sociology, education, and political science. How to develop research designs and samples, as well as how to analyze plans, and to construct and pretest the types of instruments commonly used in nutrition research and evaluation. Interviewer training, quality control, site operations, and database management.</p>				

129766	Theories Of Behavior Change And Their Application In Nutrition And Public Health Interventions			
Subject: NUTR	Catalog Nbr: 0211	2014 FALL	Primary	Sara Folta sara.folta@tufts.edu
<p>What motivates people to adopt healthier food and lifestyle choices? This course will explore various theoretical perspectives on nutrition and health-related behavior change. It will include an examination of several individual-based, social-based, organization-based and eco-social theories, including the Health Belief Model, the Theory of Planned Behavior, the Transtheoretical Model, Decision-Making, Social Support, Social Learning Theory, and Diffusion of Innovations. Knowledge of these theories will help inform the design of research and program interventions based on psycho-biological, social, cultural and organizational frameworks. The course emphasizes an understanding of core theory concepts and issues in measurement. In-class workshops will allow for direct application of the theories to students' current research and program intervention interests. The course will provide concepts and tools that can apply not only to the students' own research interests, but also to other courses, such as those focused on nutrition interventions, patient education, persuasive communication, social marketing and mass media. This course should be of great value to students in the Nutrition Communication, Nutrition Epidemiology, Nutrition Intervention Programs and to students in the MS / Dietetic Internship programs. This course was formerly listed as NUTR 283.</p>				

129922	Statistical Methods For Health Care Professionals			
Subject: NUTR	Catalog Nbr: 0214	2015 SPRG	Primary	Robert Houser robert.houser@tufts.edu
<p>In this course students critically evaluate, compare, interpret, judge, summarize and explain statistical results published in research articles in health and nutrition journals that are influencing nutrition science, research, policy, and clinical practice. Students will also develop an intermediate level ability to analyzing research data with Stata statistical software.</p>				

129943	Fundamentals Of U.S. Agriculture			
Subject:	Catalog Nbr:			

Course Bulletin

NUTR	0215				
	2014 FALL	Primary	Timothy Griffin		Timothy.Griffin@tufts.edu
<p>(Cross-listed as UEP0223) This course covers the major social, institutional and human aspects of the American agricultural system, both as it exists today as well as its historical development. After consideration of agricultural systems in general and of the values that underlie different concepts of agriculture, it covers some of the key historical forces that have made American agriculture what it is today, and the major role of the federal government, both past and present. The next part of the course deals with the economics of American agriculture as a whole and its large-scale structure, followed by an analysis of farming on the microlevel, emphasizing types of farms and farm-scale production economics. This course was formerly listed as NUTR 223.</p>					

129998	Management, Planning, And Control Of Nutrition And Health Programs And Organizations				
	Subject:	Catalog Nbr:			
	NUTR	0216			
	2015 SPRG	Primary	David Hastings		david.hastings@tufts.edu
<p>Key management concepts and principles for managing nutrition and health programs and organizations will be addressed to equip students to function as program directors and project managers). Case studies and readings will be used to convey a practical understanding of how to manage and coordinate business functions to achieve the goals and objectives of the organization. This course will deal with for-profit and nonprofit organizations. Topics will include business and project planning, management control systems, financial management, budgeting, performance measurement, pricing and marketing of services, operations, management, cost analysis, human resource management, and the development of management information systems. The course is designed to provide practical tools in areas we believe students need to acquire skills. This course was formerly listed as NUTR 225.</p>					

130033	Seminar On Program Monitoring And Evaluation				
	Subject:	Catalog Nbr:			
	NUTR	0217			
	2015 SPRG	Primary	Jennifer Coates		jennifer.coates@tufts.edu
<p>Introduction to the principles and practice of program monitoring and evaluation with an emphasis on nutrition and nutrition-related programs in developing countries. By reviewing relevant literature and utilizing case studies in the areas of nutrition, primary health, agriculture, and other fields, students will garner basic literacy of the language and tools of evaluation. Focus on theory and practice of conducting program evaluation. Emphasis on participatory nature of the seminar: students will shape the curriculum, design assignments, and be expected to bring forth their personal experiences, opinions, and questions to the subject matter at hand.</p>					

130080	Communication Strategies In Health Promotions				
	Subject:	Catalog Nbr:			
	NUTR	0218			
	2015 SPRG	Primary	Jeanne Goldberg		jeanne.goldberg@tufts.edu

Course Bulletin

A survey of communications strategies in health promotion. This course will provide students with the ability to decide when a health communication initiative is appropriate; to develop health communications programs based on appropriate theoretical foundations; and to select and plan evaluation strategies appropriate for the particular intervention. Spring.

130123	Fundamentals Of Food Science			
Subject: NUTR	Catalog Nbr: 0219			
2015 SPRG	Primary	Lynne Ausman	lynne.ausman@tufts.edu	
<p>This course will provide students a broad overview of certain aspects of both the U.S. and worldwide food supply. This course is intended to provide students with an understanding of : 1) the basic groups of foods in the food supply and their nutrient profiles; 2) the effects of harvesting, processing and storage; and 3) the important issues affecting food safety. Requirement for all students in the Food Policy and Applied Nutrition (FPAN), Agriculture, Food, and Environment (AFE), and Nutrition Communication programs who entered before the Fall of 2006. (0.5 credits)</p>				

130181	Introduction To Writing About Nutrition And Health			
Subject: NUTR	Catalog Nbr: 0220			
2014 FALL	Primary	Christine Smith	Christine.Smith@tufts.edu	
<p>This introductory course is designed to teach the basic skills necessary to write nutrition- and health-related papers that are clear, accurate, and audience-appropriate. It is a practical review of writing and revision, and will enable students to develop a clear, fluent, and readable style. The course will include both individual and collaborative exercises and will require several writing and editing assignments, as well as rewrites. It is a prerequisite for NUTR 205 and NUTR 306, both of which build on the skills it provides.</p>				

130290	The Global Food Business			
Subject: NUTR	Catalog Nbr: 0221			
2015 SPRG	Primary	James Tillotson	james.tillotson@tufts.edu	
<p>(Cross-listed as EIB B280 (Fletcher School)). The purpose of this course is to introduce the student to the field of international food and agribusiness. Today, international trade in agricultural commodities and foods is a major segment of the world's business. This business continues to grow yearly, motivated by new and potential international trade agreements (GATT, NAFTA), expansion by both established and new multinational companies, and export policies by countries seeking new markets for their growing food and agricultural production. The focus of this course will be to develop in each student a conceptual knowledge of the analytical skills in administration, marketing, business strategy, research, governmental policies and technology that international food business requires today. The course also attempts to analyze the global food business from a transnational perspective, rather than any single nationalistic viewpoint of food and agribusiness. It is designed to meet the requirements of students aiming to enter the international food business world, as well as for students who in their professional careers (e.g., government, legal) will deal with this important sector of international business. This course was formerly listed as NUTR 245.</p>				

Course Bulletin

130334	Gender, Culture And Conflict In Humanitarian Complex Emergencies			
Subject: NUTR	Catalog Nbr: 0222			
2014 FALL	Primary	Dyan Mazurana	Dyan.Mazurana@tufts.edu	
<p>(Cross-listed as DHP D232 -Fletcher). This course will examine humanitarian aid in conflict situations from a gender perspective and highlight the policy and program implications that this dimension presents. Topics covered will include the ways in which gender relations are affected by conflict; the relationship between gender and the militarization of societies and communities; violations of human rights and women's rights; women in peace building and conflict resolution; the gender dynamics of aid and post-conflict reconstruction. This course was formerly listed as NUTR 261.</p>				

130388	Seminar In Humanitarian Issues			
Subject: NUTR	Catalog Nbr: 0223			
2014 FALL	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu	
<p>Open for credit only to Master of Arts in Humanitarian Assistance (MAHA) students. This seminar will explore in depth key issues in humanitarian assistance, for example, humanitarian law, ethics, psycho-social interventions, the role of the military, program and agency management, and fund-raising. A hands-on course with an opportunity to discuss in depth much of the theory and academic literature of prerequisite courses. This course was formerly listed as NUTR 273.</p>				

130448	Community Food Planning And Programs			
Subject: NUTR	Catalog Nbr: 0224			
2015 SPRG	Primary	Hugh Joseph	hugh.joseph@tufts.edu	
<p>Key features of the course include field trips to community / local food and farm programs, guest presenters, and field-based planning projects with area non-profits, public sector agencies, or businesses. This course will cover (domestic) food and agriculture programs that focus on or operate at the community or regional levels. Such initiatives promote local/regional agriculture and food chain businesses that process, market, and use local or regional food products. In tandem, public sector and NGO initiatives now sponsor programs and policies with a community or urban food system agenda. The focus will be on more complex initiatives such as farm-to-institution projects, regional wholesaling initiatives, and food policy councils. A major course objective is to provide practical skills and tools for design, strategic planning, and implementation of these programs, including assessments, research, policy components, and funding. We will also provide contextual analyses and critical perspectives of community-based strategies as alternative food systems models.</p>				

130500	Introduction To Modern Biology Techniques			
Subject: NUTR	Catalog Nbr: 0225			

Course Bulletin

2014 FALL	Primary	Martin Obin	martin.obin@tufts.edu
<p>This intensive, short course is designed to familiarize basic science track (BMN, NEPI) students with the fundamental techniques used to study biology at the molecular, cell, tissue and whole organism levels. Techniques covered include but are not limited to gas and liquid chromatography, mass spectrometry, cell culture and transfection, electrophoresis, western blotting, immunoassays, PCR, transcriptional profiling, cell sorting, microscopy, imaging techniques and bioinformatics. Background web-based assignments will form the basis of a weekly quiz given at the beginning of each class. Discussion of the quiz will occupy the bulk of actual class time, with student participation and creativity contributing significantly to student's grade. This is a required course for all Biochemical and Molecular Nutrition Students.</p>			

130524	Health Claims and the Food Industry		
Subject: NUTR	Catalog Nbr: 0226	2015 SPRG	Primary
	James Tillotson	james.tillotson@tufts.edu	
<p>This course examines the U.S. food policies governing the use of diet and health information in commercial communications. In the mid-1980s, for the first time in history, the food industry began to use health claims in food advertising and labeling. This proved to be a highly effective marketing method for the food industry. However, industry use of health claims product promotion created public controversy and policies--a comprehensive new labeling law as well as many new FDA, USDA, and FTC regulations--governing food advertising and labeling that use nutritional and medical information. The object of this course is to review current food policies governing health claims and the regulatory regime controlling their use in commercial communications. Spring.</p>			

130571	International Nutrition Programs		
Subject: NUTR	Catalog Nbr: 0227	2015 SPRG	Primary
	Erin Boyd	Erin.Boyd@tufts.edu	
<p>This intensive course provides presentations, readings, and exercises relating to the broad range of nutrition interventions utilized in international programs: growth monitoring and promotion, nutrition counseling and IEC, supplementary feedings and food-based income transfers, household food security and agricultural-based interventions, micronutrient activities, and breast-feeding. The course also covers malnutrition causality, nutrition and structural adjustment, social funds, economic and food aid, active learning capacity and the nutrition transition. Finally students become well versed in program design and appraisal techniques including dynamic models and program constraint assessments, and are responsible for major exercises relating to existing programs in Asia, Africa and Latin America. This course was formerly listed as NUTR 204.</p>			

130618	Community And Public Health Nutrition		
Subject: NUTR	Catalog Nbr: 0228	2015 SPRG	Primary
	Virginia Chomitz	Virginia.Chomitz@tufts.edu	
<p>This intensive course provides presentations, readings and activities related to the broad range of community-based nutrition research, programs and policies in the US today. Public health efforts in</p>			

Course Bulletin

communities are implemented in many different types of settings, including community non-profit agencies, worksites, health centers, clinics, hospitals, schools, churches, supermarkets, recreational and sports centers, councils on aging/senior centers, and emergency feeding sites. Students will become familiar with community-based research and programs focused solely on nutrition as well as those in which nutrition is one component. Students will engage in skill-building and participatory activities, as well be introduced to case examples of creative and innovative approaches to community nutrition. Through field visits and guest speakers, students will have an opportunity to dialogue with public health experts and practitioners who can influence community nutrition practice. Upon completion of this course, the students will have a toolbox of skills to utilize and apply in a wide range of practice settings.

130716	Humanitarian Action In Complex Emergencies			
	Subject:	Catalog Nbr:		
	NUTR	0229		
	2014 FALL	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu
<p>This course examines the evolution of the humanitarian action in relation to changes in the operating environment and changes in the international system. This multi-disciplinary course will cover a broad range of subjects, and addresses a number of topics:--A historical perspective on humanitarian action;--The normative frameworks of humanitarian action - international humanitarian law, humanitarian principles, and codes of conduct;--Conceptual frameworks for addressing the protection of life, livelihoods, rights and safety of people caught in complex emergencies;--The impact of conflicts and the "global war on terror" on humanitarian space and humanitarian action;--The political economy of conflict and humanitarian aid;--Methodologies developed to improving the effectiveness and accountability of humanitarian action;--The evolving structure of the international humanitarian system;--The ethical and practical implications of incorporating human rights in humanitarian action. The course will rely on a case-study approach to examining these issues, and students will be involved in developing the case studies for presentation in class. By the end of this course students will be aware of the foundations on humanitarian action (International Humanitarian Law, humanitarian principles, different traditions); the historical, legal, social, political and moral context of humanitarian emergencies; the main analytical frameworks used to understand the causes and consequences of complex emergencies; and major forms of humanitarian responses to complex emergencies. Students will understand the complex relationship between humanitarian action and the international environment, the impact of humanitarian emergencies on social relations, and will have a working knowledge of the principles and standards of accountability for engaging in humanitarian response in complex emergencies.</p>				

130855	International Ngo's: Ethics And Management Practice			
	Subject:	Catalog Nbr:		
	NUTR	0230		
<p>The course first examines the role and relevance of the non-governmental sector with a view to understanding the concepts underpinning NGO management, accountability and role in society. The course will then focus on a number of key issues essential for the effective running of NGOs. The course will end with an exploration of Southern NGOs and their relationship with the North and the future of international NGOs. This course will introduce students to such essential skills such as strategic planning, advocacy, the use of the press, fundraising, budgets and reading financial</p>				

Course Bulletin

statements. It will also explore key questions including the role NGOs play in society and in international development and how and whether they are different from other institutions in society. This course focuses on key conceptual questions that are essential to understanding NGOs and on practical skills and tools needed for managing them. The course first examines the role and relevance of the non-governmental sector with a view to understanding the concepts underpinning NGO management, accountability and role in society. The course will then focus on a number of key issues essential for the effective running of NGOs. The course will end with an exploration of Southern NGOs and their relationship with the North and the future of international NGOs. This course will introduce students to such essential skills such as strategic planning, advocacy, the use of the press, fundraising, budgets and reading financial statements. It will also explore key questions including the role NGOs play in society and in international development and how and whether they are different from other institutions in society. This course focuses on key conceptual questions that are essential to understanding NGOs and on practical skills and tools needed for managing them.

130915	Fundamentals Of GIS			
Subject: NUTR	Catalog Nbr: 0231			
2014 SPRG	Primary	Brandon Olson	Brandon.Olson@tufts.edu	
2015 SPRG	Primary	Paul Cote	Paul.Cote@tufts.edu	
<p>Many problems in agriculture, food and nutrition are inherently geographic in nature. For example, livestock production is increasingly concentrated in large feeding operations, leading to new spatial patterns of water and air pollution or foodborne illness. Spatial clustering is equally important for food consumption, nutrition and public health, as in hunger hotspots, food deserts and disease corridors. This course will equip students with the skills needed to capture, analyze and communicate spatial data in geographic information systems (GIS), using a variety of examples from agriculture, food and nutrition.</p>				

130952	Nutrition Epidemiology Journal Club			
Subject: NUTR	Catalog Nbr: 0232			
<p>The principal goals of the nutrition epidemiology journal club are 1) to enhance graduate students' understanding of the field of nutrition epidemiology and 2) to provide practice reviewing and critiquing research studies. In weekly sessions, the students will prepare a peer-reviewed or original article for class discussion that reinforces the principles of study design as they apply to nutritional epidemiology. This course will also help students to develop their peer review skills and thus become critical reviewers of epidemiologic literature.</p>				

131013	Agricultural Science And Policy I			
Subject: NUTR	Catalog Nbr: 0233			
2015 SPRG	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu	
2015 SPRG	Secondary	Christian Peters	Christian.Peters@tufts.edu	
<p>First part of a two-semester sequence required of AFE students. This course covers the major biological, chemical and physical components of agricultural systems. Each is discussed from the viewpoints of both the</p>				

Course Bulletin

underlying natural processes and principles, and their significance for major agricultural, food safety, and environmental policy issues in the US today. In the first semester, the topics covered are soils, water, nutrients, and genetic resources.

131043	Junior Clinical Rotations			
Subject:	Catalog Nbr:			
NUTR	0235			
2015 SPRG	Primary	Kelly Kane		Kelly.Kane@tufts.edu
Required of junior standing students enrolled in the Combined Dietetic Internship/Masters Degree program. Grading is Satisfactory/Unsatisfactory.				

131317	Practicum In Bioresearch Techniques			
Subject:	Catalog Nbr:			
NUTR	0236			
2015 SPRG	Primary	Martin Obin		martin.obin@tufts.edu
<p>Biochemical and Molecular Nutrition students must enroll in one practicum in bioresearch techniques. Students who anticipate a career in basic nutritional sciences require extensive laboratory training. Practicums in bioresearch techniques, established as a single, 1.0 credit course, will provide students with an understanding of critical experimental evaluation as well as hands-on experience in essential techniques of modern biology. In the practicum, students will answer a specific biologic question through experimentation. Faculty in participating laboratories will be responsible for providing an overview of the biologic interest of the laboratory, overseeing the development of a specific, defined project, teaching the theory of specific techniques to be employed, and training the students in the application of these techniques. Students will be evaluated through a written report and oral presentation in a laboratory meeting-type setting. Formerly listed as NUTR 260A-D.</p>				

131352	Economics Of Food Policy Analysis			
Subject:	Catalog Nbr:			
NUTR	0238			
2015 SPRG	Primary	William Masters		William.Masters@tufts.edu
<p>This course equips students with the principles used in economics for food policy analysis. We use the graphical methods taught in standard, one-semester courses on the principles of economics, but our motivation, examples and applications are focused on food and nutrition problems in the United States and around the world. Course objectives are to help students explain, predict and evaluate the social outcomes of individual choices using economics principles. Students gain familiarity with the data sources and analytical methods needed to: (1) explain and predict consumption, production and trade in agriculture and food markets; (2) evaluate the social welfare consequences of market failure, collective action and government policies including regulation, taxation and enforcement of property rights in agriculture and food markets; (3) measure poverty and inequality in income, wealth, nutrition and health, as influenced by changes in markets and policies; and (4) describe macroeconomic relationships, fluctuations and trends in incomes, employment, economic growth and development.</p>				

Course Bulletin

131383	Emerging Technologies And Nutrition Communication			
Subject: NUTR	Catalog Nbr: 0239			
<p>The course begins with an overview of the role of technology in nutrition communication through a grounding in core concepts and a survey of technology in the field of health and nutrition communication. It then provides an orientation to three specific uses of Internet-based communication technology (dissemination, collaboration, and knowledge) through hands-on opportunities that encourage students to use and evaluate specific tools and their appropriateness to various nutrition communication contexts. Throughout the course, students work on a group that utilizes one or more technologies covered.</p>				

131447	Nutrition Science Journal Club			
Subject: NUTR	Catalog Nbr: 0240			
2015 SPRG	Primary	Jeffrey Blumberg	jeffrey.blumberg@tufts.edu	
2015 SPRG	Secondary	Nicola McKeown	nicola.mckeown@tufts.edu	
<p>The principal goals of this student-run Nutrition Science Journal Club are to: (a) enhance graduate students' understanding of the current state of biochemical and molecular nutrition and (b) provide experience in reviewing and critiquing research articles. In alternate week sessions, students will critically evaluate peer-reviewed articles for class discussion that reinforce the principles of various research approaches (including in vitro experiments, animal models, observational studies, clinical trials) and analytical methods. This course will also help students to develop their evaluative skills and presentation performance. All BMN & NEPI MS and PhD students are encouraged to take this course within the first two years of matriculation to the Friedman School. This will be an intellectually stimulating course that will focus on recent findings in the field. In addition to the faculty advisor for this course, other faculty will be encouraged to attend to help facilitate discussions; for each session, faculty with expertise in a topic to be discussed during that class will be invited to participate. This approach also has the benefit of allowing students in their first and second year of their program to meet and interact with a variety of Friedman faculty. The primary format of this course will be student-selected and -led presentations of recent publications in the biochemical and molecular nutrition literature. The course covers two semesters, meeting every two weeks. During the year, all participating students will be required to give at least one PowerPoint presentation, and submit to the class a one-page summary that addresses the study aims, methods and results, and provides a critical assessment of the article. Presentation dates will be selected at the beginning of the semester. This course will also include two introductory faculty-led lectures on: (a) developing the skills and knowledge essential to understanding and critiquing research reports and (b) effectively communicating the relevant supporting material, results, and conclusions of primary research reports.</p>				

131468	Food for All: Ecology, Biotechnology & Sustainability			
Subject: NUTR	Catalog Nbr: 0241			
<p>With the human population expected to exceed 9 billion by 2050, how will we meet the increasing demand for food in an ecologically sustainable way? Historically, rapid increases in yield have been a result of advances in three main technologies:</p>				

Course Bulletin

- (1) genetic improvement
- (2) use of synthetic pesticides and fertilizers
- (3) expanded irrigation.

Each of these technological advances, however, has limitations or has led to significant environmental degradation. There is an urgent need for new approaches to food production without destroying the environment.

In this interdisciplinary course, we will examine the pros and cons of two divergent approaches to meeting this food demand: organic farming and genetic engineering. Using contrasting crops grown in developing and industrialized countries as case studies, we will evaluate:

- (1) how ecological knowledge makes food production more sustainable
- (2) what existing and emerging approaches can, in the face of climate change, contribute to a reliable supply of nutritious food
- (3) the political and economic drivers that shape who has access to these technologies.

We will also explore stakeholder-specific perspectives (growers, advocacy groups, industry, governmental agencies), as well as develop important communication skills for negotiating these different perspectives.

132234	Summer Internship		
	Subject:	Catalog Nbr:	
	NUTR	0298	
Please see Departmental Website for detailed course description.			

132248	Nutrition In The Life Cycle		
	Subject:	Catalog Nbr:	
	NUTR	0301	
	2015 SPRG	Primary	Jennifer Truong
			Jennifer.Truong@tufts.edu
This course covers nutrition issues from preconception throughout life. It considers factors that affect growth and development, and the aging process. Among these are food insecurity, environmental factors, nutrition and disease interactions, congenital abnormalities, and inborn errors of metabolism. This course was formerly listed as NUTR 251.			

132280	Risk And Disaster Management		
	Subject:	Catalog Nbr:	
	NUTR	0302	
(Cross-listed as DHP D233 (Fletcher). This course (requiring advance reading and extensive participation in discussion) serves as a bridge between classes on nutrition in a developmental context and those focused on relief in complex emergencies. Manifestations of household and national vulnerability differ in these contexts, but only by a matter of degrees. Risks of individual nutrition failure are related to risks of household food security, which in turn relate to risks inherent in the physical, economic, cultural and political environment that is the backdrop to household behavior. The conditions that determine food and nutritional stresses persist in countries undergoing economic transformation and political unrest, but also in those ill equipped to cope with the stresses of globalization, increasing poverty, and declining public sector responsibility. Much			

Course Bulletin

international work involves being able to assess the potential risks and returns of alternative development strategies in such diverse contexts. This course was formerly listed as NUTR 231.

132292	Determinants Of U.S. Food Policy			
Subject: NUTR	Catalog Nbr: 0303	2014 FALL	Primary	Parke Wilde Parke.Wilde@tufts.edu
<p>Focuses on government food-related programs from an economic and political perspective. Reviews the evolution of a range of policies and programs, analyzing their effects on the U.S. economy and on household consumption and the farm economy, as well as on food consumption at the national, household, and individual level. Existing policies and programs are related to the political and economic environment and to changing food consumption patterns in American society. Food assistance programs (e.g., Food Stamps), nutrition programs, food supply and agricultural price policies, and consumer protection and information are considered. This course was formerly listed as NUTR 216.</p>				

132320	Nutrition, Food Security, And Development			
Subject: NUTR	Catalog Nbr: 0304	2014 FALL	Primary	Jennifer Coates jennifer.coates@tufts.edu
<p>The aim of this course is to introduce current policy and development issues and debate, and to encourage critical analysis of conventional wisdom and generalizations. Focusing on complex interactions among local and global systems, the course seeks to prepare students for employment in the field of international development, be it as practitioners, analysts, teachers or writers. Alternative concepts, data and viewpoints will be explored on key problems in real contexts. Case studies will be drawn on experiences in countries as diverse as Ethiopia, Niger, Thailand, Vietnam, China and Peru. Class assignments: (a) Two short critiques of journal articles or donor policy statements, b) one individual or group presentation (30 minutes) on a current development problem and its potential solutions, and c) a more demanding paper assignment (10-12 pages) for the end of the semester. Grading will be based on the following structure: Paper assignment (35%), Class presentation (35%), Short critiques (30%). Active class participation is expected. This course was formerly listed as NUTR 218.</p>				

132334	Nutritional Epidemiology			
Subject: NUTR	Catalog Nbr: 0305	2014 FALL	Primary	Fang Fang Zhang Fang_Fang.Zhang@tufts.edu
<p>This course is designed for graduate students at either the Master's or Ph.D. level, who are interested in conducting or better interpreting epidemiologic studies relating diet and nutrition to health and disease. There is an increasing awareness that various aspects of diet and nutrition may be important contributing factors in chronic disease. There are many important problems, however, in the implementation and interpretation of nutritional epidemiologic studies. The purpose of this course is to examine epidemiologic methodology in relation to nutritional measures, and to review the current state of knowledge regarding diet and other nutritional indicators as etiologic factors in disease. This course is designed to enable students to</p>				

Course Bulletin

better conduct nutritional epidemiologic research and/or to better interpret the scientific literature in which diet or other nutritional indicators are factors under study. This course was formerly listed as NUTR 213B.

132349	Communicating Health Information To Diverse Audiences, Part B			
Subject:	Catalog Nbr:			
NUTR	0306			
2014 FALL	Primary	Laurie Larusso		Laurie.Larusso@tufts.edu
<p>A review and analysis of how nutrition and health issues are presented by the media. This course will reinforce concrete journalism skills and an understanding of the values and practices required of a competent and thoughtful writer and is structured around class discussions, selected readings, and writing and editing assignments. Classroom discussions and assignments will also focus on how to report controversial issues in nutrition and health. This course was formerly listed as NUTR 201B.</p>				

132363	Regression Analysis For Nutrition Policy			
Subject:	Catalog Nbr:			
NUTR	0307			
2015 SPRG	Primary	Parke Wilde		Parke.Wilde@tufts.edu
<p>Part two of a one-year, two-semester course sequence in statistics. This course is intended for students whose main focus is non-experimental or survey-based research. The course covers non-experimental research design, simple linear regression, multiple regression, analysis of variance, non-linear functional forms, heteroskedasticity, complex survey designs, and real-world statistical applications in nutrition science and policy. Students will make extensive use of Stata for Windows. NOTE: Students cannot receive credit for both NUTR 307 and its second semester counterpart NUTR 309.</p>				

132377	Nutrition In Complex Emergencies			
Subject:	Catalog Nbr:			
NUTR	0308			
2015 SPRG	Primary	Erin Boyd		Erin.Boyd@tufts.edu
<p>(Cross-listed as DHP D237 (Fletcher School). Required for students enrolled in the Master of Arts in Humanitarian Assistance Program. This course will examine the central role and importance of food and nutrition in complex emergencies. The implications of this for nutrition assessment, policy development, program design and implementation will be examined. This will provide an understanding of; the nutritional outcomes of emergencies (malnutrition, morbidity and mortality); and also the causes of malnutrition and mortality in emergencies (the process and dynamics of an emergency). The course will also develop a broader range of management skills needed in relation to humanitarian response initiatives. This course was formerly listed as NUTR 264.</p>				

132392	Statistical Methods For Nutrition Research II			
Subject:	Catalog Nbr:			
NUTR	0309			
2014 SPRG	Primary	Gerard Dallal		Jerry.Dallal@tufts.edu

Course Bulletin

Part two of a one-year, two-semester course covering descriptive statistics, graphical displays, confidence intervals, hypothesis testing, t test, chi-square test, nonparametric tests, multiple linear regression, multiple logistic regression, experimental design, multi-factor and multiple comparisons procedures. Students will make extensive use of SPSS for Windows. NOTE: Students cannot receive credit for both NUTR 309 and NUTR 307. LAB: Students must sign up for one of three lab sections, time/locations TBA

132420	Qualitative Research Methods For Nutrition			
Subject: NUTR	Catalog Nbr: 0310	2015 SPRG	Primary	Justeen Hyde Justeen.Hyde@tufts.edu
<p>This course teaches principles and practical skills of qualitative methods in an interactive seminar format. Participants will learn how to design and carry out qualitative research by drawing on weekly background readings and writings, critical case-study discussions, and practical class exercises. They will also take part in the design, implementation, and reflective evaluation of a local research project that involves practical, hands-on experience. The first part of the course will focus on the foundations of qualitative research, including epistemological and ontological assumptions, an overview of methods and their strengths and challenges, standards for quality, and tools for critical assessment of insights derived from these methods. The second part of the course will be dedicated to learning how to design qualitative studies, develop data collection instruments, create data management strategies, and approach data analysis. Students will utilize an identified, community-based interest to inform their qualitative studies. In the final part of the course, students will implement the studies they have designed and gain experience interviewing, analyzing, and disseminating qualitative research. Students should have exposure to research methods in social or health sciences prior to enrollment in this course.</p>				

132434	Nutrition Data Analysis			
Subject: NUTR	Catalog Nbr: 0311	2014 FALL	Primary	Robert Houser robert.houser@tufts.edu
<p>This course will cover knowledge of advanced Stata statistical computing, data base construction, error detection and correction; creation of composite variables; descriptive statistics; univariate analyses, including ANOVA, regression, and factor analysis; and the construction of scales and factor scores. Students pose a research question, identify appropriate statistical techniques for answering the research question, perform the analyses and report on the results in an article suitable for publication in an academic journal. Advanced Stata programming will be taught in weekly hands on lab sessions.</p>				

132447	Nutrition and Chronic Disease			
Subject: NUTR	Catalog Nbr: 0312	2015 SPRG	Primary	Sarah Booth Sarah.Booth@tufts.edu
<p>This course covers issues in modern nutrition, public health and chronic disease. We will focus on the major non-infectious diseases present in Western countries that are caused by modifiable lifestyle choices and the role that diet plays in maintenance of health and the risk of chronic diseases. Credit: 0.5</p>				

Course Bulletin

132462	Nutritional Assessment			
Subject: NUTR	Catalog Nbr: 0313			
	2015 SPRG	Primary	Sai Das	sai.das@tufts.edu
<p>This course will provide an overview of the common nutritional and food security assessment tools. Laboratory and field methods for population wide nutritional deficiency assessment, nutritional screening and surveillance, dietary assessment, hunger and food security as well as diet diversity and food group indices will be examined. Clinical methods including body composition, biochemical and clinical factors related to macro and micronutrient deficiency will be discussed. Using practical training and demonstrations students will learn how to select and apply these methods in program-based or research-based settings. Issues of validity and reliability of these methods will be addressed mainly in the context of strengths and limitations of each method. At the end of the course, students should have some familiarity with the common nutritional assessment techniques as well as their practical applications at the individual and population wide levels.</p> <p>Credit: 0.5</p>				

132476	Design Of Epidemiologic Studies For Nutrition Research			
Subject: NUTR	Catalog Nbr: 0314			
	2015 SPRG	Primary	Julie Dunn	Julie.Dunn@tufts.edu
<p>This course examines epidemiological principles of study design for nutrition research. Focuses primarily on valid, efficient, and ethical methods for studying relationships between nutritional exposures and chronic disease. Includes written assignments and oral presentations requiring the application of design principles to specific research questions. This course was formerly listed as NUTR 262.</p>				

132516	Applied Nutritional Biochemistry			
Subject: NUTR	Catalog Nbr: 0315			
	2014 FALL	Primary	Alice Lichtenstein	alice.lichtenstein@tufts.edu
<p>This course will focus on human nutrition and metabolism. Emphasis will be placed on the biological ramifications of altering substrate load and essential nutrients caused by intended and unintended changes in dietary intake. The functional and regulatory roles of macronutrients and micronutrients will be stressed. Additional components of the course will include integrating nutrition policy with nutrition science. Students will be guided in connecting the lay and scientific literature in the areas of biochemistry and nutrition, and exploring how each informs the other. Opportunities will be available for preparing short written reports and oral presentations on contemporary research issues related to the essential nutrients and current topics. Current challenges in the field of nutrition will be related to the lecture material.</p>				

132530	Advanced Medical Nutrition Therapy			
Subject: NUTR	Catalog Nbr: 0316			

Course Bulletin

2015 SPRG	Primary	Kelly Kane	Kelly.Kane@tufts.edu
2015 SPRG	Secondary	Kathrina Prelack	kprelack@tufts.edu
Nutritional biochemistry and physiology as related to selected pathophysiological conditions, with attention paid specifically to dietary assessment and various indices of nutritional status. Conditions with particular relevance to clinical nutrition are emphasized. This course was formerly listed as NUTR 250B.			

132544	Positive Deviance For Behavior Change: A Course For Practitioners		
Subject: NUTR	Catalog Nbr: 0317		
2014 FALL	Primary	Randa Wilkinson-Bouvier	Randa.Wilkinson_Bouvier@tufts.edu
<p>Positive Deviance provides a unique approach for solving problems that require social or behavioral change. At its heart is the belief that in every community there are a few individuals – "positive deviants" – whose uncommon practices or behaviors enable them to outperform or find better solutions to pervasive problems than their neighbors with whom they share the same resource base. Identifying the positive deviants' special practices/behaviors reveals hidden resources already present in the environment, from which it is possible to devise solutions to pervasive community problems, solutions that are sustainable as well as cost-effective. Students will read and discuss positive deviance and behavior change literature, review and critique studies and programs, and design and carry out positive deviance inquiries in the Boston area. Grading is Satisfactory/Unsatisfactory (S/U). Course enrollment is limited to 12. This course was formerly listed as NUTR 291PD.</p>			

132557	Statistical Methods For Epidemiology		
Subject: NUTR	Catalog Nbr: 0318		
<p>This course focuses on the identification of confounding, effect modification and bias in epidemiological data. Methods of control of confounding for continuous, categorical and time to event data will be explored. Topics include analysis of data from normal, binomial and Poisson distributions, logistic and Poisson regression, and survival analysis using actuarial, Kaplan-Meier and Cox's proportional hazards, correlated data analysis, generalized estimating equations, and the mixed model. The art and science of statistical modeling and data reduction will be introduced. The course emphasizes practical application and makes extensive use of the SAS programming language.</p>			

132570	Intermediate Epidemiology		
Subject: NUTR	Catalog Nbr: 0319		
2015 SPRG	Primary	Fang Fang Zhang	Fang_Fang.Zhang@tufts.edu
<p>Intermediate Epidemiology exposes students to a variety of key concepts and methods when carrying out epidemiologic studies and teaches students applied skills in analyzing epidemiologic data and interpreting study findings appropriately. This course includes a 2-hour lecture session followed by a 1-hour lab session. The lecture session will present epidemiologic methods and concepts beyond the Principles of Epidemiology, and review relevant statistical methods and their applications in epidemiologic studies. The lab session will</p>			

Course Bulletin

prepare students with practical skills in conducting and analyzing epidemiologic studies using SAS. The lab session will be taught in a computer lab equipped with SAS.

132584	Nutritional Impact On The Immune System And Related Diseases			
Subject: NUTR	Catalog Nbr: 0320	2013 FALL	Primary	Simin Meydani simin.meydani@tufts.edu
<p>This special topics course will review the impact of various nutrients (in both deficient and supplemental states) on maintaining the homeostasis of the immune system during physiological and pathological states as well as during different developmental stages of life. The implications for disease development and/or prevention will be discussed. Special emphasis will be given to understanding the mechanism of nutrients' effect on the immune system at biochemical, molecular and cellular levels. The role of nutrient status in maintaining "optimal" immune function and "disease prevention" and its implications for determining the recommended dietary allowance will be discussed. This course was formerly listed as NUTR 291IM.</p>				

132599	Dietary Antioxidants And Degenerative Diseases			
Subject: NUTR	Catalog Nbr: 0321	2014 FALL	Primary	Mohsen Meydani mohsen.meydani@tufts.edu
<p>This course will discuss the role of dietary antioxidants and pro-oxidants on the pathogenesis of degenerative diseases at molecular, cellular and whole body level. The balance of pro-oxidants-antioxidants on free radical generation, lipid peroxidation, protein oxidation, DNA damage and cell injury will be reviewed in the context of chronic and acute diseases such as cardiovascular disease, cancer, diabetes, arthritis, Alzheimer's disease. This course emphasizes the role of dietary antioxidant vitamins E and C, carotenoids, polyphenols, selenium, iron, zinc and copper on oxidative stress and antioxidant defense mechanisms. This course was formerly listed as NUTR 291DA.</p>				

132614	Humanitarian Studies In The Field			
Subject: NUTR	Catalog Nbr: 0324	2015 SPRG	Primary	Peter Walker No Email on file.
<p>This course will offer a practical and in-depth analysis of the complex issues and skills needed to engage in humanitarian work in field settings. Through presentations offered by the faculty of the Humanitarian Studies Initiative and guest speakers who are experts in their topic areas, students will gain familiarity with the primary frameworks in the humanitarian field (human rights, livelihoods, Sphere standards, international humanitarian law) and will focus on practical issues that arise in the field, such as rapid public health assessments, field cluster sampling techniques, application of minimum standards for food security, and operational approaches to relations with the military in humanitarian settings. Credit:</p>				

132626	Science Based Interventions for Child Malnutrition			
Subject:	Catalog Nbr:			

Course Bulletin

NUTR	0325			
2014 FALL	Primary	Irwin Rosenberg	irwin.rosenberg@tufts.edu	
2014 FALL	Primary	Shibani Ghosh	Shibani.Ghosh@tufts.edu	
<p>This course will build on current knowledge and translation of nutrition science basis for interactions for prevention and treatment of child malnutrition (wasting and stunting) in developing countries. The emphasis will be on protein quality, micronutrient content especially iron, Vitamin A, zinc, folate and essential fatty acids. Current interventions will be analyzed and discussed in this manner with emphasis on criteria for effectiveness studies.</p>				

132640	International Food And Agricultural Trade			
Subject:	Catalog Nbr:			
NUTR	0326			
<p>NUTR 326 will allow fourth-semester Friedman students to examine the impact of international food and agriculture trade on food security outcomes, rural livelihoods, food safety, value-chain organization, consumption and food-related health outcomes, the environment, etc. in a seminar style format. The semester will begin with an introduction to international trade theories and market models; international trade institutions and the multilateral and bilateral agreements that regulate food trade; and international agricultural commodity markets. The effects of border interventions, domestic support policies, and exchange rates on food and agricultural markets will be explored. The role of domestic and multilateral governance of trade-related food regulations (labeling, risk assessment measures, etc.) will also be discussed. Problem sets will familiarize students with tariff and non-tariff border interventions and their impacts, and the effects of exchange rates on agricultural prices, comparative advantage, and production. The semester will include a trade negotiation simulation exercise.</p>				

132654	Food Systems			
Subject:	Catalog Nbr:			
NUTR	0327			
2015 SPRG	Primary	Hugh Joseph	hugh.joseph@tufts.edu	
<p>Food Systems represents a form of capstone course with a discussion format. Students will provide input into selection of topics that they will focus and present on. The course primarily addresses food system structures and components, with an emphasis on sustainability & spanning agriculture, environment, power and economics, values and ethics, food security, food sovereignty, and food choices. Topics of concentration may cover contemporary issues and can include food miles and 'foodprints'; climate change; greening vs. greenwashing; ethics of eating meat and using bottled water; and eating sustainably. We will also examine the global political economy of the food system, and approaches to understanding and influencing food system change. Common terminology used in food systems and sustainability discourses are clarified. Classes will emphasize student presentations on components of the food system; student-led discussions of readings; and group exercises/debates. Assignments will include research-based projects focusing on food system change. This class is suitable for second year students, or for first year students with grounding in food systems literature and/or relevant experience (to be approved by the instructor).</p>				

132667	Understanding Nutrition Science Using Systematic Review And Meta Analysis			
---------------	----------------------------------------------------------------------------------	--	--	--

Course Bulletin

Subject: Catalog Nbr:
NUTR 0328

Nutrition is an increasingly important topic for clinical medicine and public health policy. An unbiased assessment of the scientific literature is critical when formulating public health policy, allocating health care resources, reviewing and approving health claims, counseling patients who have varying biological needs and comorbidities, and targeting scarce research dollars. The large body of scientific literature, often with seemingly conflicting results, presents a formidable challenge to those making these decisions. This course will focus on the methods and uses of systematic reviews and meta-analyses for nutrition studies and their applications to the field of nutrition.

132680	Agricultural Science And Policy II			
	Subject:	Catalog Nbr:		
	NUTR	0333		
	2014 FALL	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu
	2014 FALL	Secondary	Christian Peters	Christian.Peters@tufts.edu
<p>Second part of a two-semester sequence required of AFE students. This course covers the major biological, chemical and physical components of agricultural systems. Each is discussed from the viewpoints of both the underlying natural processes and principles, and their significance for major agricultural, food safety, and environmental policy issues in the US today. In this second semester, the topics are best management practices, livestock systems, food systems, climate change and bio-energy. Major policy issues associated with these areas include protecting groundwater from nitrogen contamination; regulating and monitoring pesticide use; regulating agricultural biotechnology; and regulating "factory" animal production.</p>				

132694	Senior Clinical Rotations			
	Subject:	Catalog Nbr:		
	NUTR	0335		
	2015 SPRG	Primary	Kelly Kane	Kelly.Kane@tufts.edu
<p>Required of senior standing students enrolled in the Combined Dietetic Internship/Masters Degree program. Grading is Satisfactory/Unsatisfactory. Formerly NUTR 880.</p>				

132709	Nutritional Genomics And Epigenomics			
	Subject:	Catalog Nbr:		
	NUTR	0336		
	2013 FALL	Primary	Lara Park	No Email on file.
<p>The course, which consists of two modules, Nutritional Genomics and Nutritional Epigenomics, will offer a state of science approach to unravel the effects of diet on health. In the Nutritional Genomics module, students will learn how nutrients affect gene expression, how nutrients and genes interact, and how nutrients affect the process of diseases such as cardiovascular diseases and metabolic syndrome through genetic mechanism. The Nutritional Epigenomics module will provide the most recent knowledge regarding epigenetic phenomenon, a mechanism that alters gene expression without genetic changes, how nutrients affect epigenetic phenomena, and how nutrients affect physiologic and pathologic processes such as embryonic development, aging, and cancer by modifying epigenetic phenomena.</p>				

Course Bulletin

132722	Economics Of Agriculture And The Environment			
Subject: NUTR	Catalog Nbr: 0341			
2015 SPRG	Primary	Sean Cash	Sean.Cash@tufts.edu	
<p>This course is highly recommended for AFE students and any Friedman student with an interest in economic aspects of the food/environment interface. In this class we will be studying a broad range of environmental and natural resource problems through the tools and concepts of microeconomics - the social science that deals with balancing our (seemingly unlimited) wants and needs within the limitations of our personal, social, and natural environments. It therefore provides useful frameworks for considering issues such as how we protect and use our land, forests, and oceans; the impact of climate change on food production; societal investment in land, water, and soil quality; and how private and social incentives can help overcome market failures. Economic aspects of environmental and agricultural policies will be a major focus.</p>				

132736	Nutritional Biochemistry And Physiology: Macronutrients			
Subject: NUTR	Catalog Nbr: 0370			
2014 FALL	Primary	Stefania Lamon-Fava	stefania.lamon-fava@tufts.edu	
<p>Required of all students in the Biochemical and Molecular Nutrition and Nutritional Epidemiology programs. The course will expand understanding of the biological roles of nutrients and their metabolism using basic knowledge in physiology, biochemistry, cell biology and molecular biology. It will integrate information on the roles of macronutrients in nutrition and health especially on their relationship to cardiovascular disease, diabetes and cancer, as well as provide a forum for discussing the experimental approaches to studying macronutrient metabolism and function. NUTR 370 is an advanced course in the nutrition sciences and will cover topics related to carbohydrates and energy metabolism, fiber, protein and amino acids, and lipids. Students are expected to be familiar with the material covered in NUTR 202, as well as the biochemistry and physiology courses offered at Tufts.</p>				

132750	Nutritional Biochemistry And Physiology: Micronutrients			
Subject: NUTR	Catalog Nbr: 0371			
2015 SPRG	Primary	Edward Saltzman	edward.saltzman@tufts.edu	
<p>Required of all students in the Biochemical and Molecular Nutrition and Nutritional Epidemiology programs, NUTR 371 is an advanced course in nutritional sciences. Nutr 371 will cover topics related to minerals, watersoluble micronutrients and fat-soluble micronutrients. Students are expected to be familiar with the material covered in an introductory nutrition course, as well as the biochemistry and physiology courses.</p>				

132762	Ms Cont Part Time			
Subject: NUTR	Catalog Nbr: 0395			
<p></p>				

Course Bulletin

132774	Ms Cont Full Time	
Subject:	Catalog Nbr:	
NUTR	0396	

135600	Directed Study			
Subject:	Catalog Nbr:			
NUTR	0397			
2013 FALL	Primary	Dayong Wu	dayong.wu@tufts.edu	
2013 FALL	Primary	Sai Das	sai.das@tufts.edu	
2013 FALL	Primary	Jacob Selhub	jacob.selhub@tufts.edu	
2013 FALL	Primary	Hugh Joseph	hugh.joseph@tufts.edu	
2014 FALL	Primary	Sara Folta	sara.folta@tufts.edu	
2014 FALL	Primary	Sarah Booth	Sarah.Booth@tufts.edu	
2014 FALL	Primary	Joseph Kehayias	joseph.kehayias@tufts.edu	
2014 FALL	Primary	Elizabeth Johnson	elizabeth.johnson@tufts.edu	
2014 FALL	Primary	Jeffrey Blumberg	jeffrey.blumberg@tufts.edu	
2014 FALL	Primary	Nicola McKeown	nicola.mckeown@tufts.edu	
2014 FALL	Primary	Chung-Yen Chen	Oliver.Chen@tufts.edu	
2014 FALL	Primary	Jimmy Crott	Jimmy.Crott@tufts.edu	
2014 FALL	Primary	Jennifer Obadia	Jennifer.Obadia@tufts.edu	
2014 FALL	Primary	Fang Fang Zhang	Fang_Fang.Zhang@tufts.edu	
2014 FALL	Primary	William Masters	William.Masters@tufts.edu	
2014 FALL	Primary	Sean Cash	Sean.Cash@tufts.edu	
2014 SPRG	Primary	Xian-Dong Wang	xian-dong.wang@tufts.edu	
2014 SPRG	Primary	Jose Ordovas	jose.ordovas@tufts.edu	
2014 SPRG	Primary	Paul Jacques	paul.jacques@tufts.edu	
2014 SPRG	Primary	Edward Saltzman	edward.saltzman@tufts.edu	
2014 SPRG	Primary	Alice Lichtenstein	alice.lichtenstein@tufts.edu	
2014 SPRG	Primary	Gail Rogers	gail.rogers@tufts.edu	
2014 SPRG	Primary	Miriam Nelson	miriam.nelson@tufts.edu	
2014 SPRG	Primary	Patrick Webb	patrick.webb@tufts.edu	
2014 SPRG	Primary	Kenneth Chui	Kenneth.Chui@tufts.edu	
2014 SPRG	Primary	Parke Wilde	Parke.Wilde@tufts.edu	
2014 SPRG	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu	
2014 SPRG	Primary	Christian Peters	Christian.Peters@tufts.edu	

Directed Study is a mechanism for a student to receive academic credit for work completed under the tutelage of a faculty member. This is generally done on a one-to-one basis with the student taking major responsibility for his/her progress. Research conducted in a laboratory during a Directed Study project can be either problem-oriented or technique-based. Directed Studies must be supervised by Friedman School faculty. Students must register for a Directed Study using the online form.

Course Bulletin

135642	Doctoral Candidacy Preparation	
Subject: NUTR	Catalog Nbr: 0399	
Students should register for this course while preparing for the Ph.D. Qualifying Examination in order to remain in active status. Full time equivalent & grading is Satisfactory/Unsatisfactory. This course was formerly listed as NUTR 397.		

135681	Advanced Analytic Methods For Nutrition Policy Research	
Subject: NUTR	Catalog Nbr: 0401	
This course teaches advanced methods for food and nutrition policy research. A central theme is the difficulty of inferring causation using non-experimental data, because of "omitted" or "confounding" factors. We focus on four strategies for addressing omitted variables: a) proxy variables, b) the "difference-in-differences" approach, c) simple models for panel data (fixed effects and random effects), and d) instrumental variables (two-stage least squares). We also address methods for solving the most frequently encountered data problems, such as multicollinearity, complex survey design, and outliers. Most methods are drawn from the field of econometrics, but they are chosen for their likely usefulness for social science research more generally. Using examples of real nutrition policy research questions in the United States and around the world, the course demonstrates the use of advanced analytic methods for defensible and convincing policy analysis. This course was formerly listed as NUTR 281.		

135708	Phd Thesis Only Part Time	
Subject: NUTR	Catalog Nbr: 0402	

135787	Ph.d. Thesis Only	
Subject: NUTR	Catalog Nbr: 0403	
All doctoral students must register for NUTR403 every semester to remain in active and full time status (full time equivalent.) Grading is Satisfactory/Unsatisfactory.		

135801	Food And Nutrition Policy Doctoral Research Seminar	
Subject: NUTR	Catalog Nbr: 0404	
2015 SPRG	Primary	Irwin Rosenberg irwin.rosenberg@tufts.edu
This seminar is designed to offer doctoral students a forum for discussing issues, methodologies, and research findings at a higher plane of analysis. Will represent a venue for in-depth, cross-disciplinary exploration of challenging topics. Under the direction of one or more faculty members, students will be expected to facilitate topic discussions and guide each other's research, evaluate methods, and critique research findings, often in		

Course Bulletin

fields outside of nutrition. Students will be actively challenged to explore cutting-edge topics in innovative ways. The seminar offers students an opportunity to apply new methodologies or insights directly to their own work and return to the seminar at different stages of preparation for further review. In addition, students will develop more presentational skills, and learn the art of giving and receiving constructive criticism. Grading is Satisfactory/Unsatisfactory. This course was formerly listed as NUTR 292. NOTE: FPAN PH.D. REQUIREMENT. Food Policy and Applied Nutrition doctoral candidates are required to fulfill at least two semesters during the period of their doctoral program; participation by FPAN doctoral students beyond the requirement two is strongly encouraged. Strongly recommended for doctoral students in the (former) World Hunger, US Food and Nutrition Issues programs and AFE program. Other doctoral students are welcome.

136001	Directed Study				
	Subject:	Catalog Nbr:			
	NUTR	0497			
	2013 FALL	Primary	Roger Fielding	roger.fielding@tufts.edu	
	2013 FALL	Primary	Nicola McKeown	nicola.mckeown@tufts.edu	
	2013 FALL	Primary	Eileen Kennedy	Eileen.Kennedy@tufts.edu	
	2013 FALL	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu	
	2015 SPRG	Primary	Edward Saltzman	edward.saltzman@tufts.edu	
Directed Study is a mechanism for a student to receive academic credit for work completed under the tutelage of a faculty member. This is generally done on a one-to-one basis with the student taking major responsibility for his/her progress. Research conducted in a laboratory during a Directed Study project can be either problem-oriented or technique-based. Directed Studies must be supervised by Friedman School faculty. Students must register for a Directed Study using the online form.					

136015	Research Practicum	
	Subject:	Catalog Nbr:
	NUTR	0501
Required of Post-Doctoral and Training Grant Fellows. Grading is Satisfactory/Unsatisfactory.		

138644	Transfer Credit	
	Subject:	Catalog Nbr:
	TRAN	9999

138792	Genetics & Epidemiology	
	Subject:	Catalog Nbr:
	CRBU	0701

138793	Microeconomic Theory	
--------	----------------------	--

Course Bulletin

Subject: CRBU	Catalog Nbr: 0501
Microeconomic Thoery	

138794	Advanced Microeconomics
Subject: CRBR	Catalog Nbr: 0301

138795	Graduate Bioinformatics
Subject: CRBC	Catalog Nbr: 0616

138799	Anthropology of Food and Nutrition
Subject: NUTR	Catalog Nbr: 0330
2015 SPRG	Primary Ellen Messer ellen.messer@tufts.edu

138928	MARKETING OPER MANAGEMNT
Subject: CRBC	Catalog Nbr: 0705

138929	MUSCLE BIO HLTH & DISEAS
Subject: CRBU	Catalog Nbr: 0560

138930	TPC ADVANCE ECONOMETRICS
Subject: CRBU	Catalog Nbr: 0711

138931	BIOLOGICAL DATABASE ANLY
Subject:	Catalog Nbr:

Course Bulletin

CRBU	0768
------	------

138932	MASS SPEC&FUNCTNL GENOMC
---------------	-------------------------------------

Subject:	Catalog Nbr:
CRBU	0793

138933	SUPPLY CHAIN MANAGEMENT
---------------	--------------------------------

Subject:	Catalog Nbr:
CRBU	0854

138956	Cross Reg: Research, Clinical and Public Policy Applications in Medical Nutr sci
---------------	-----------------------------------------------------------------------------------------

Subject:	Catalog Nbr:
CRBU	0620

138957	Comp. Bio of Human Disease
---------------	-----------------------------------

Subject:	Catalog Nbr:
CRBU	0500

138959	Proteins, Mass Spectrometry & Functional Genomics
---------------	--------------------------------------------------------------

Subject:	Catalog Nbr:
CRBU	0792

139037	STATISTICAL METHODS EPI
---------------	--------------------------------

Subject:	Catalog Nbr:
CRBU	0852

139207	Nutritional Biochemistry with Community/Clinical Applications: Macronutrients
---------------	--------------------------------------------------------------------------------------

Subject:	Catalog Nbr:
NUTB	0205

2013 FALL

Primary

Alice Lichtenstein

alice.lichtenstein@tufts.edu

Course Bulletin

2013 FALL	Primary	Sai Das	sai.das@tufts.edu
2014 FALL	Primary	Lynne Ausman	lynne.ausman@tufts.edu
<p>Students will explore the fundamental roles of nutrients in biological systems and the implications of macronutrient biological functions on food and nutrition policy. Emphasis will be placed on the function of nutrients as defined by their chemistry, interrelations among nutrient functions, mechanistic approaches in the analysis of nutrient-disease relationships, and recent advances in the basic sciences related to nutrition and nutrient function. The course will integrate examples of community, clinical and public health policy applications throughout the term. Published journal articles from the peer reviewed literature, case histories, and public policy documents will form the basis for critical review and discussion. This is the first of a two-course sequence (NUTB 205 and NUTB 305 – may be taken in either order).</p>			

139208	Economics for Food and Nutrition Policy		
Subject:	Catalog Nbr:		
NUTB	0238		
2014 FALL	Primary	William Masters	William.Masters@tufts.edu
<p>This course equips students with the principles used for economic analysis of food and nutrition policies around the world. We use the graphical methods taught in standard, one-semester courses on the principles of economics, but our motivation, examples and applications are focused on food and nutrition problems in the United States and elsewhere. On completion, students will be able to obtain the data and apply the analytical methods needed to: (1) explain and predict consumption, production and trade in agriculture and food markets; (2) evaluate the social welfare consequences of market failure, collective action and government policies including regulation, taxation and enforcement of property rights in agriculture and food markets; (3) measure poverty and inequality in income, wealth, nutrition and health, as influenced by changes in markets and policies; and (4) describe macroeconomic relationships, fluctuations and trends in incomes, employment, economic growth and development.</p>			

139209	Statistical Methods for Health Professionals I		
Subject:	Catalog Nbr:		
NUTB	0250		
2014 FALL	Primary	Robert Houser	robert.houser@tufts.edu
<p>Students will critically evaluate, compare, interpret, judge, summarize and explain statistical results published in research articles in health and nutrition journals from the United States and around the world that are influencing the practice of nutrition science, policy and research. Students learn and use Stata® statistical software for their homework.</p>			

139222	Field Research Methods in Humanitarian Settings		
Subject:	Catalog Nbr:		
NUTC	0235		
2014 FALL	Primary	Karen Jacobsen	karen.jacobsen@tufts.edu

Course Bulletin

139239	Intermediate Biostatistics: Regression Methods			
Subject: NUTR	Catalog Nbr: 0323	2014 FALL	Primary	Kenneth Chui
				Kenneth.Chui@tufts.edu
<p>This course provides a survey of regression techniques for outcomes common in biomedical and public health data including continuous, count, binary, and time series data. Emphasis is on developing a conceptual understanding of the application of these techniques to solving problems, rather than to the numerical details. The objectives of this course are to (1) recognize when data can be described and analyzed by a regression model;(2) develop and interpret regression models; (3) plan and conduct an appropriate analysis; (4) summarize the results of the analysis in terms of the research question in both verbal and written formats suitable for targeted audiences.</p>				

139241	Food Security and Nutrition in Emergencies			
Subject: NUTC	Catalog Nbr: 0232	2014 SPRG	Primary	Daniel Maxwell
		2014 SPRG	Primary	Katherine Sadler
				Daniel.Maxwell@tufts.edu
				Kate.Sadler@tufts.edu
<p>The course will take a practical programming approach by first, reviewing issues of food security and nutritional assessment, interpretation and response analysis, followed by a focus on the core food security and nutrition actions including food assistance, direct nutrition interventions and interventions to protect and promote food security and livelihoods more broadly. Programming examples explored cover a range of applications from acute emergencies to protracted crises, recovery, and in some cases, food security and nutrition elements of social protection. The evidence base for these actions will be reviewed, along with related international policies, standards and guidelines. A broader range of related and topical issues will also be considered, including humanitarian protection, disaster risk reduction and emergency preparedness, coordination, capacity development, recovery and transition.</p>				

139243	Statistical Methods for Health Professionals II			
Subject: NUTB	Catalog Nbr: 0350	2014 SPRG	Primary	Robert Houser
				robert.houser@tufts.edu
<p>The purpose of this course is to help students gain proficiency applying statistical concepts and procedures for the analysis of health and nutrition data. Statistical analysis techniques used for the analysis of data from experimental and non-experimental research studies covered in this course will include multiple regression assumptions, diagnostics, transformations and robust standard errors, multiple logistic regression, analysis of variance and covariance and analysis of data from cluster randomized trials. In this course students critically evaluate, compare, interpret, judge, summarize and explain statistical results published in research articles in health and nutrition journals that are influencing nutrition science, research, policy, and clinical practice. Students will learn how to formulate research questions, how to identify appropriate statistical techniques, how to perform the analysis with Stata(R) statistical software and report results in tables, text and figures.</p>				

139371	Directed Study			
---------------	-----------------------	--	--	--

Course Bulletin

Subject:	Catalog Nbr:			
NUTR	0397			
2013 FALL	Primary	Beatrice Rogers	beatrice.rogers@tufts.edu	
2014 FALL	Primary	Donato Rivas	Donato.Rivas@tufts.edu	
2014 FALL	Primary	Christian Peters	Christian.Peters@tufts.edu	
2014 SPRG	Primary	Carole Palmer	carole.palmer@tufts.edu	
2014 SPRG	Primary	David Gute	david.gute@tufts.edu	
2014 SPRG	Primary	Johanna Dwyer	johanna.dwyer@tufts.edu	
2014 SPRG	Primary	Mohsen Meydani	mohsen.meydani@tufts.edu	
2014 SPRG	Primary	Patrick Webb	patrick.webb@tufts.edu	
2014 SPRG	Primary	Jennifer Coates	jennifer.coates@tufts.edu	
2014 SPRG	Primary	Kelly Kane	Kelly.Kane@tufts.edu	
2014 SUMR	Primary	Sean Cash	Sean.Cash@tufts.edu	

Directed study to be used with a letter/numeric grading basis

139426	Nutrition Child Development			
Subject:	Catalog Nbr:			
NUTR	0212			
2015 SPRG	Primary	Stephanie Frasca	Stephanie.Anzman_Frasca@tufts.edu	
<p>This course provides an overview of development during gestation, infancy, childhood, and adolescence, and enables students to think critically about the role of nutrition in child development. We will focus primarily on current issues and controversies in the United States, notably for health promotion and obesity prevention, with international perspectives incorporated during select units. This course complements NUTR 301 (Nutrition & the Life Cycle), as well as NUTR 272 (Physical Activity, Nutrition and Health); the only prerequisite is NUTR 201 (Fundamentals of Nutrition Science) or equivalent.</p>				

139427	Food Politics and Policy in the US			
Subject:	Catalog Nbr:			
NUTR	0340			
2014 SPRG	Primary	Christopher Bosso	No Email on file.	
<p>This course uses contemporary food issues to examine core elements of the U.S. system of government and to illuminate dynamics in American politics and policymaking. Its primary purpose is to develop a clearer understanding of how government institutions function, and how politics broadly understood shape what we end up calling (perhaps with some overstatement) "food policy." As such, the course focuses its attention on such elements as the constitutional foundations of the U.S. system of government, how the structure of the election system affects policy debate and outcomes, why some organized societal interests have greater access to and leverage with policymakers than others, and, overall, why obtaining fundamental policy change is difficult – yet not impossible</p>				

139428	Food Systems Modeling and Analysis			
Subject:	Catalog Nbr:			

Course Bulletin

NUTR	0342				
	2015 SPRG	Primary	Christian Peters	Christian.Peters@tufts.edu	
<p>Agriculture and food industries are a subject of growing interest in terms of their resource requirements, ecological impacts, and sustainability. This course will provide a foundation in some of the methods of modeling and analysis used to study food systems. We will address several types of approaches, generally building in complexity, starting with net balances of production and consumption and continuing through modeling food production capacity, foodshed analyses, life cycle assessment, and system dynamics and integrated modeling. Students will learn what types of questions are best addressed through modeling approaches, the methods used to conduct food systems models, and the data required to complete the analyses. In addition, they will have opportunities to conduct simple analyses through in-class exercises. Finally, students will learn how models might be relevant to the development of policy related to local and regional food systems or dietary changes to reduce environmental impact.</p>					

139439	Community Organizing				
	Subject:	Catalog Nbr:			
	CRBU	0781			

139456	Nutritional Biochemistry with Community/Clinical Applications: Micronutrients				
	Subject:	Catalog Nbr:			
	NUTB	0305			
	2014 SPRG	Primary	Lynne Ausman	lynne.ausman@tufts.edu	
<p>Students will continue the exploration of the fundamental roles of nutrients in biological systems and the implications of micronutrient biological functions on food and nutrition policy. As with NUTB 205, emphasis will be on the function of nutrients as defined by their chemistry, interrelations among nutrient functions, mechanistic approaches in the analysis of nutrient-disease relationships, and recent advances in the basic sciences related to nutrition and nutrient function. This is the second of a two-course sequence (NUTB 205 and NUTB 305 – may be taken in either order).</p>					

139457	Global Nutrition Programs				
	Subject:	Catalog Nbr:			
	NUTB	0227			
	2014 SPRG	Primary	Kristy Hendricks	kristy.hendricks@tufts.edu	
<p>The goal of this course is to expose students to major global nutrition programs and strategies designed to lessen the global burden of nutrition related morbidity and mortality. Both prevention and treatment options for major nutrition related disorders that dominate contemporary populations will be discussed. This course will cover: a) current debates in the cause, prevention and treatment of global nutrition challenges, b) the range of options for interventions that exist, and actually implemented, c) the strength of the evidence base underpinning actions, d) approaches to problem assessment, (including the process of considering alternatives according to context), e) examples of successful nutrition interventions, f) constraints to success (what makes or breaks major program successes), and g) key global organizations involved in nutrition policy and programming.</p>					

Course Bulletin

Each session will seek to cover: a) main problems still needing to be resolved; b) priority/target populations; c) interventions used/not used. Students will examine solutions at the local, national, and international level, including policy impact on programs, public health interventions, and public health practices.

139458	Theories of Behavior Change			
Subject: NUTB	Catalog Nbr: 0211			
2014 SPRG	Primary	Sara Folta		sara.folta@tufts.edu
<p>This course explores the theories of behavior change most commonly used in nutrition and public health. Includes an examination of several individual-based, social-based, organization-based and eco-social theories, including the Health Belief Model, the Theory of Planned Behavior, the Trans-theoretical Model, Decision-Making, Social Support, Social Learning Theory, and Diffusion of Innovations. Understanding and being able to apply these theories will help researchers and practitioners design program interventions based on psychological, biological, social, cultural and organizational frameworks.</p>				

139459	Interpreting Nutrition Evidence			
Subject: NUTC	Catalog Nbr: 0230			
2014 SPRG	Primary	Adela Hruby		Adela.Hruby@tufts.edu
<p>This course will familiarize students with the terms and tools required to navigate the scientific literature and dissect the components of nutrition research articles. The course covers literature searches, study designs, anatomy of a research paper, and common statistical terms. Through “hands-on” exercises, including a literature review and case studies of how nutrition-related scientific evidence is translated in press releases and social media, students will gain the skills required to translate and communicate this body of knowledge responsibly.</p>				

139468	Obesity and Energy Regulation			
Subject: NUTB	Catalog Nbr: 0242			
2014 SPRG	Primary	Sai Das		sai.das@tufts.edu
<p>This course is a perspective from the intersection of food and biology and will build upon principles of energy balance that were developed in Nutritional Biochemistry. In the first section, physiologic regulation of body weight and its dysregulation leading to obesity will be explored. The interaction between hormonal/neuroendocrine systems and dietary factors will featured. In the second half of the course, lifestyle, pharmacologic and surgical approaches to obesity treatment as well as maintenance of lost weight will be presented.</p>				

139509	Systematic Reviews: Theory and Practice			
Subject: NUTR	Catalog Nbr: 0369			

Course Bulletin

This course is designed to train students how to conduct a systematic literature review and how to report it in a research article suitable for an academic journal. This course combines classroom sessions with substantial individual or group work to create a systematic literature review plan. Students will be taught how to perform each step in a review and will then be expected to apply it to a topic of their choosing. They will get feedback at each stage in the process. The final deliverable for the course will be a protocol for a systematic literature review.

Both masters and doctoral students can use the course as an opportunity to become an expert on a particular topic of interest. Masters students can use the written review protocol as a writing sample when applying for employment after graduation and some students might eventually complete the systematic review and publish it in an academic journal. Doctoral students can use the literature review as the basis for dissertation letter of intent since conducting a systematic review is a good first step in developing a research proposal.

Several course sessions and labs will be devoted to mathematical meta-analysis concepts and procedures. The primary course objectives are to understand how to conduct a systematic literature search, how to critically evaluate the quality of each study selected for inclusion in the review and how to write up the review in a form suitable for submission to an academic journal.

139570	Directed Study				
	Subject:	Catalog Nbr:			
	NUTR	0297			
	2014 SPRG	Primary	Peter Walker	No Email on file.	
	2014 SPRG	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu	
Directed study to be used with a letter/numeric grading basis.					

139588	Biology II: Cells, Genetics, Development and Physiology				
	Subject:	Catalog Nbr:			
	CRBU	BI108			

139604	Directed Study				
	Subject:	Catalog Nbr:			
	NUTR	0497			
	2013 FALL	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu	
Letter/grading basis					

139617	Policy, Systems, and Environmental Change for Physical Activity				
	Subject:	Catalog Nbr:			
	NUTC	0212			
	2014 SUMR	Primary	Rebecca Boulos	Rebecca.Boulos@tufts.edu	

Course Bulletin

2014 SUMR	Primary	Richard Fenton	Mark.Fenton@tufts.edu
-----------	---------	----------------	-----------------------

139618	Assessing and Measuring the Impact of Humanitarian Aid		
Subject:	Catalog Nbr:		
NUTC	0302		
2014 SUMR	Primary	Andrew Catley	andrew.catley@tufts.edu
2014 SUMR	Primary	John Burns	John.Burns@tufts.edu

139619	Master's Thesis		
Subject:	Catalog Nbr:		
NUTB	0300		
2014 SUMR	Primary	Robert Houser	robert.houser@tufts.edu
2014 SUMR	Primary	Lynne Ausman	lynne.ausman@tufts.edu
Faculty will oversee the selection, scope and mentoring for a thesis project.			

139620	Global Food and Nutrition Policy		
Subject:	Catalog Nbr:		
NUTB	0206		
2014 SUMR	Primary	Eileen Kennedy	Eileen.Kennedy@tufts.edu
<p>Varying global and national forces drive food production and consumption within and among nations. The possibilities and limitations facing nutrition professionals in any given situation require an understanding of policy and the basic principles of policy formation. In order to be effective, professionals need an understanding of the indicators that are available to diagnose the situation, the skills to seek out information, and the ability to correctly interpret the results. Students will examine and apply these skills to specific case examples and evaluate the range of programs used to address over and under-nutrition, and which interventions are appropriate in varying circumstances.</p> <p>The class will cover: a) how science influences the policy agenda, and how policy debates influence the scientific and programmatic agenda; b) the scientific underpinnings of food and nutrition policies and development of normative guidance; c) how empirical findings in scientific research and operational programming make their way into policy and law; d) global debates and controversies in nutrition; e) how to evaluate what works best and what the alternatives should be considered; f) a review of key organizations involved in global food and nutrition policy and programming.</p>			

139621	Management of Health and Nutrition NGO's		
Subject:	Catalog Nbr:		
NUTB	0208		
2014 SUMR	Primary	David Hastings	david.hastings@tufts.edu
Key concepts and principles for managing nutrition and health programs and organizations will be addressed to equip students to function as program directors and project managers. Case studies and readings will be			

Course Bulletin

used to convey a practical understanding of how to manage and coordinate business functions to achieve the goals and objectives of the organization. This course will deal with for-profit and nonprofit organizations. Topics will include business and project planning, management control systems, financial management, budgeting, performance measurement, pricing and marketing of services, operations management, cost analysis, human resource management, and the development of management information systems. The course is designed to provide students with practical tools.. The course is designed to develop an awareness of how each management function interacts and impacts the organization. Residencies will be comprised of lectures covering specialized topics, case discussions with student presentations, and journal discussions.

139622	Advanced Medical Nutrition Therapy				
	Subject:	Catalog Nbr:			
	NUTB	0316			
	2014 SUMR	Primary	Kelly Kane	Kelly.Kane@tufts.edu	
	2014 SUMR	Primary	Kathrina Prelack	kprelack@tufts.edu	
<p>This course aims to expand student's knowledge on a variety of common pathophysiological conditions and integrate this knowledge with the intervention of clinical nutrition therapies. Students will learn about the basic elements of medical nutritional therapy. These include nutritional assessment, which incorporates the use of anthropometric, biochemical and clinical data to determine nutritional status. Particular emphasis is placed on understanding energy expenditure and body composition and their components, and how these may change during physiological stress or illness. Students then learn about enteral and parenteral nutrition and fundamental aspects of nutrition support. These core elements are then applied in the study of various disease states and clinical nutrition therapy. Students also have the opportunity to explore diet and disease in an approved area of their interest through written and oral presentation.</p>					

139777	Scientific Principles Of Human Nutrition And Food				
	Subject:	Catalog Nbr:			
	NUTC	0202			
	2014 SUMR	Primary	Diane McKay	diane.mckay@tufts.edu	
<p>This course presents the fundamentals of nutrition. The student will be expected to be familiar with the material covered in undergraduate level biology, chemistry and biochemistry prior to taking this course. The goals for this course are: 1). to identify the components of a healthful diet, from the basic groups of foods to each of the macronutrients and micronutrients, and their inter-relationships; 2) to understand the effects of harvesting, processing and storage of foods as they pertain to a healthful diet; 3) for each of the individual nutrients, to identify primary dietary forms, food sources, recommended dietary intake, biochemical role, mode of absorption, transport and excretion, existence of toxicity or deficiency for the nutrient; 4) to understand the scientific basis for current nutrition recommendations and the intended use for individual sets of recommendations and; 5) to understand issues affecting food safety.</p>					

139834	Theories of Behavior Change and an Introduction to the Positive Deviance Approach				
	Subject:	Catalog Nbr:			
	NUTC	0213			
<p>How do you achieve behavior change in challenging circumstances? This course explores that question, first</p>					

Course Bulletin

by examining theories of behavior change commonly used in nutrition and public health and then with an in-depth introduction specifically to the Positive Deviance Approach. In the first half, several individual-based, social-based, organization-based and eco-social theories will be explored, with an emphasis on understanding of core theory concepts and issues in measurement. Building on this base, the second half will cover the concept, theory, history and application of PD. Students will develop their own problem statement and map out the steps required to apply the PD approach to their identified problem. By the end of this course, students will understand the steps involved in the PD process, acquire basic skills to complete step one of the PD process, and develop a proposal to design a PD inspired project plan. Interactive activities and assignments will teach students when to apply each of the behavior change methods.

139852	Epidemiology for Nutrition Professionals			
Subject:	Catalog Nbr:			
NUTB	0204			
2014 FALL	Primary	Silvina Choumenkovitch	silvina.choumenkovitch@tufts.edu	
2014 FALL	Primary	Maria Lammi	Maria.VanRompay@tufts.edu	
<p>This course covers basic epidemiologic concepts and methods and introduces students to techniques, including dietary assessment methods, which are used in human nutrition research. Students will learn to calculate and interpret basic measures of disease frequency and measures of effect, will be introduced to methods for recognizing and addressing sources of error in human studies, and will learn the basics of study design and implementation for nutrition research.</p>				

139853	Monitoring and Evaluation of Nutrition and Food Security Programs			
Subject:	Catalog Nbr:			
NUTB	0210			
2014 FALL	Primary	Erin Boyd	Erin.Boyd@tufts.edu	
2014 FALL	Primary	Marion Min-Barron	Marion.Min-Barron@tufts.edu	
<p>Inadequate project monitoring and evaluation (M&E) represent a major constraint in domestic and international programmatic efforts to address problems of malnutrition. The absence of sound M&E processes in large numbers of nutrition projects, despite continued evidence of their value in assessing and improving project performance, suggests that many project planners and managers may not yet have the necessary skills or understanding to develop and operate such systems. In this course students will become familiar with the strategies and techniques for monitoring and evaluating projects, particularly those related to nutrition and food security. They will be exposed to multiple domestic and international examples of monitoring and evaluation systems. Students will gain experience in the design of regional monitoring and evaluation plans and be able to assess the adequacy of proposals and program evaluations designed by others.</p>				

139854	Nutrition, Brain and Behavior			
Subject:	Catalog Nbr:			
NUTB	0243			
2014 FALL	Primary	Marcy Goldsmith	marcy.goldsmith@tufts.edu	

Course Bulletin

During the past two decades there has been an increasing awareness of the interaction between nutrition and behavior. To examine this interaction, two general themes will be pursued. First, we will investigate the effects of nutritional variables on brain functioning and behavior. Second, we will study the influence of psychological variables in determining food intake and nutritional status. Examples of topics to be covered includes: the effects of protein- caloric malnutrition on brain development and intellectual functioning; obesity and other eating disorders; food additives and behavior; the role of brain mechanisms in determining nutritional intake; food choice; food as an addiction; and the importance of vitamins and minerals for behavioral functioning.

139855	Nutrition and Aging		
Subject: NUTB	Catalog Nbr: 0241		
<p>This course will address the impact of nutrition on aging and the impact of aging on nutrient needs. The worldwide population is experiencing a dramatic increase in the number of elderly, due to socioeconomic improvements, and advances in science, technology, medicine and nutrition. It is of primary importance to determine both the nutritional needs of the elderly and to adequately determine long-term nutrient needs that will prevent or ameliorate nutrition- related chronic diseases. Topics will include changes in body composition and their adverse effects such as frailty and sarcopenia, controversies about healthy weights for older adults, roles of micronutrients in ameliorating age-related deterioration in bone health and immune function, and therapies that may prevent cognitive decline. Approaches to maximizing healthy aging from physiological and sociologic aspects of these problems will be presented.</p>			

139856	Food Science Fundamentals		
Subject: NUTB	Catalog Nbr: 0219		
2014 FALL	Primary	Lynne Ausman	lynne.ausman@tufts.edu
<p>The foundation of knowledge for any nutrition professional is a thorough understanding the nutritional components of food and foodborne pathogens that are linked with disease and issues affecting food safety. Students will become adept with the basic groups of foods in the food supply and their nutrient profiles, their harvesting, processing and storage procedures and policies. The course will provide students a broad overview of certain aspects of the food supply both locally and worldwide and will examine issues affecting food safety including some of the mechanisms by which foodborne pathogens that cause disease in humans, as well as the human consequences of infection by major foodborne pathogens such as E. coli O157:H7, Campylobacter and Listeria.</p>			

139922	Cardiovascular Epi II		
Subject: CRHA	Catalog Nbr: EPI245		

140094	Sustainability on the Farm		
---------------	-----------------------------------	--	--

Course Bulletin

Subject: Catalog Nbr:
NUTC 0261

2014 FALL

Primary

Timothy Griffin

Timothy.Griffin@tufts.edu

Agriculture is the single largest user of land and water and, thus, has broad environmental impacts. Gains in yield productivity over the last five decades have met increasing demands without increasing agricultural area in the U.S., but environmental, economic and social costs have been considerable. In this first course of the series, the farm level primary costs and benefits will be analyzed, along with a profile of current conventional and alternative approaches to food production in the U.S. Students will examine the policy response to environmental and conservation concerns, focusing on the balance between meeting increased demand while mitigating environmental and social costs.

140108	Biology of Muscle Wellness & Disease
Subject:	Catalog Nbr:
CRBU	HS560

140148	Introduction to Epidemiology
Subject:	Catalog Nbr:
CRBU	713

140163	Principles of General Chemistry
Subject:	Catalog Nbr:
CRBU	CAS171

140277	Genetic Epidemiology
Subject:	Catalog Nbr:
CRHA	507

140278	Bayesian Methodology in Biostatistics
Subject:	Catalog Nbr:
CRHA	249
Bayesian Methodology in Biostatistics	

140279	Econometrics for Health Policy
Subject:	Catalog Nbr:

Course Bulletin

CRHA 525
Econometrics for Health Policy

140280	Population, Health, and Development
Subject: Catalog Nbr:	
CRHA 225	
Population, Health, and Development	

140281	Mobilizing the Science of Early Childhood Development to Drive Innovation in Policy and Practice
Subject: Catalog Nbr:	
CRHA 299	
Mobilizing the Science of Early Childhood Development to Drive Innovation in Policy and Practice	