

# Course Bulletin

<b>100869</b>	<b>Prin Of Physiology</b>
Subject: CRSK	Catalog Nbr: 166

<b>101370</b>	<b>Gene Exp In Eukaryotes</b>
Subject: CRSK	Catalog Nbr: 212B

<b>101722</b>	<b>Graduate Pathobiology</b>
Subject: CRSK	Catalog Nbr: 293G

<b>101800</b>	<b>Muscle Physiology</b>
Subject: CRBU	Catalog Nbr: 592

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

<b>102187</b>	<b>Human Physiology</b>
Subject: CRBR	Catalog Nbr: 42A

<b>102313</b>	<b>Exercise Physiology</b>
Subject: CRBU	Catalog Nbr: 731

<b>102358</b>	<b>Prin Of Biochemistry</b>
Subject:	Catalog Nbr:

# Course Bulletin

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

<b>102763</b>	<b>Principles Of Biostatics</b>
---------------	---------------------------------

Subject:	Catalog Nbr:
CRMD	202

<b>102794</b>	<b>Public Health Politics</b>
---------------	-------------------------------

Subject:	Catalog Nbr:
CRMD	203

<b>102830</b>	<b>Interm Biostatistics</b>
---------------	-----------------------------

Subject:	Catalog Nbr:
CRMD	206

<b>102865</b>	<b>Epidemiologic Methods</b>
---------------	------------------------------

Subject:	Catalog Nbr:
CRMD	207

<b>102915</b>	<b>Adv Prof Communication Emerson College</b>
---------------	---

Subject:	Catalog Nbr:
CRMD	500

<b>102952</b>	<b>Public Health/care Health Communications</b>
---------------	---

Subject:	Catalog Nbr:
CRMD	503H

<b>102979</b>	<b>Population Dynamics</b>
---------------	----------------------------

Subject:	Catalog Nbr:
CRBU	881H

# Course Bulletin

<b>103167</b>	<b>Communication Theory Emerson College</b>			
	Subject:	Catalog Nbr:		
	CRMD	520		

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

<b>103349</b>	<b>Dir Std:public Relations</b>			
	Subject:	Catalog Nbr:		
	CRMD	585Q		

<b>103423</b>	<b>Writing For Press Emerson College</b>			
	Subject:	Catalog Nbr:		
	CRMD	CS55		

<b>107606</b>	<b>Economic Development</b>			
	Subject:	Catalog Nbr:		
	CRFL	E231		

<b>122478</b>	<b>Physical Activity, Nutrition, And Health</b>			
	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.

<b>122782</b>	<b>Globalization, Development And Humanitarianism: Ethics And Personal Transformation</b>
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>	

<b>127008</b>	<b>General Nutrition</b>
Subject: NRAK	Catalog Nbr: 0202

<b>127043</b>	<b>Epidemiology: Nutr Profs</b>
Subject: NRAK	Catalog Nbr: 0204

<b>127080</b>	<b>Nutr Biochem I</b>
Subject: NRAK	Catalog Nbr: 0205

# Course Bulletin

<b>127118</b>	<b>Statistical Methods</b>
Subject: NRAK	Catalog Nbr: 0207

<b>127151</b>	<b>Mgmt:nutr&amp;health Ngos</b>
Subject: NRAK	Catalog Nbr: 0208

<b>127193</b>	<b>Monitoring &amp; Evaluation</b>
Subject: NRAK	Catalog Nbr: 0210

<b>127213</b>	<b>Food Policy Fundamentals</b>
Subject: NRAK	Catalog Nbr: 0211

<b>127234</b>	<b>Nutrition Policy</b>
Subject: NRAK	Catalog Nbr: 0212

<b>127247</b>	<b>Nutr Comm In Glb Context</b>
Subject: NRAK	Catalog Nbr: 0213

<b>127265</b>	<b>Food Science Fundamental</b>
Subject: NRAK	Catalog Nbr: 0219

<b>127285</b>	<b>Global Nutritional Pgms</b>
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

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

<b>128532</b>	<b>Program Monitoring And Evaluation</b>				
	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

<b>128568</b>	<b>Theories of Behavior Change &amp; their Application in Nutrition/Public Health Interventions</b>				
	Subject: NUTC	Catalog Nbr: 0211			
		2014 SPRG	Primary	Kristie Hubbard	Kristie.Hubbard@tufts.edu
		2015 SPRG	Primary	Emily Vikre	Emily.Vikre@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>					

<b>128591</b>	<b>Social Media For Nutrition Audiences</b>				
	Subject: NUTC	Catalog Nbr: 0220			

<b>128622</b>	<b>Pd Theories Methods Proc</b>				
	Subject: NUTC	Catalog Nbr: 0318			

# Course Bulletin

<b>128667</b>	<b>Theories Of Pd</b>	
Subject:	Catalog Nbr:	
NUTC	0319	

<b>128687</b>	<b>Positive Deviance In Practice</b>	
Subject:	Catalog Nbr:	
NUTC	0320	

<b>128785</b>	<b>Directed Study/undergrad</b>	
Subject:	Catalog Nbr:	
NUTR	0102	

<b>128948</b>	<b>Directed Study</b>			
Subject:	Catalog Nbr:			
NUTR	0297			
2014 FALL	Primary	Susan Roberts	susan.roberts@tufts.edu	
2014 FALL	Primary	William Masters	William.Masters@tufts.edu	
2014 SPRG	Primary	Miriam Nelson	miriam.nelson@tufts.edu	
2014 SPRG	Primary	Nicola McKeown	nicola.mckeown@tufts.edu	
2014 SUMR	Primary	Lynne Ausman	lynne.ausman@tufts.edu	
2015 SPRG	Primary	Sara Folta	sara.folta@tufts.edu	
2015 SPRG	Primary	Martin Obin	martin.obin@tufts.edu	
2015 SPRG	Primary	Gail Rogers	gail.rogers@tufts.edu	
2015 SPRG	Primary	Hugh Joseph	hugh.joseph@tufts.edu	
2015 SPRG	Primary	Caren Smith	Caren.Smith@tufts.edu	
2015 SPRG	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu	
2015 SPRG	Primary	Timothy Griffin	Timothy.Griffin@tufts.edu	
2015 SPRG	Primary	Sean Cash	Sean.Cash@tufts.edu	
<p>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.</p>				

<b>129095</b>	<b>Special Tps:study Abroad Nutrition</b>	
Subject:	Catalog Nbr:	
NUTR	0196	



# Course Bulletin

<b>129117</b>	<b>Special Tps:study Abroad Nutrition</b>			
Subject:	Catalog Nbr:			
NUTR	0197			

<b>129335</b>	<b>Scientific Principles Of Human Nutrition And Food</b>			
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>				

<b>129416</b>	<b>Fundamentals Of Public Policy</b>			
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>				

<b>129475</b>	<b>Principles Of Epidemiology</b>			
Subject:	Catalog Nbr:			
NUTR	0204			
2014 FALL	Primary	Mark Woodin	mark.woodin@tufts.edu	

# Course Bulletin

(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.

<b>129491</b>	<b>Communicating Health Information To Diverse Audiences, Part A</b>			
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.				

<b>129583</b>	<b>Statistical Methods For Nutrition Research (policy)</b>			
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.				

<b>129603</b>	<b>Human Physiology</b>			
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.				

<b>129664</b>	<b>Statistical Methods For Nutrition Research (science)</b>			
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.				

# Course Bulletin

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.

<b>129679</b>	<b>Survey Research Nutrition</b>			
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>				

<b>129766</b>	<b>Theories Of Behavior Change And Their Application In Nutrition And Public Health Interventions</b>			
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>				

<b>129922</b>	<b>Statistical Methods For Health Care Professionals</b>			
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>				

# Course Bulletin

<b>129943</b>	<b>Fundamentals Of U.S. Agriculture</b>			
Subject: NUTR	Catalog Nbr: 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>				
<b>129998</b>	<b>Management, Planning, And Control Of Nutrition And Health Programs And Organizations</b>			
Subject: NUTR	Catalog Nbr: 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>				
<b>130033</b>	<b>Seminar On Program Monitoring And Evaluation</b>			
Subject: NUTR	Catalog Nbr: 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>				

# Course Bulletin

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

<b>130123</b>	<b>Fundamentals Of Food Science</b>			
Subject: NUTR	Catalog Nbr: 0219			
2014 SPRG	Primary	Lynne Ausman	lynne.ausman@tufts.edu	
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)				

<b>130181</b>	<b>Introduction To Writing About Nutrition And Health</b>			
Subject: NUTR	Catalog Nbr: 0220			
2014 FALL	Primary	Christine Smith	Christine.Smith@tufts.edu	
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.				

<b>130290</b>	<b>The Global Food Business</b>			
Subject: NUTR	Catalog Nbr: 0221			
2015 SPRG	Primary	James Tillotson	james.tillotson@tufts.edu	
(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				

# Course Bulletin

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.

<b>130334</b>	<b>Gender, Culture And Conflict In Humanitarian Complex Emergencies</b>			
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>				

<b>130388</b>	<b>Seminar In Humanitarian Issues</b>			
Subject: NUTR	Catalog Nbr: 0223	2015 SPRG	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>				

<b>130448</b>	<b>Community Food Planning And Programs</b>			
Subject: NUTR	Catalog Nbr: 0224	2014 FALL	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>				

# Course Bulletin

<b>130500</b>	<b>Introduction To Modern Biology Techniques</b>			
Subject: NUTR	Catalog Nbr: 0225	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>				

<b>130524</b>	<b>Health Claims and the Food Industry</b>			
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>				

<b>130571</b>	<b>International Nutrition Programs</b>			
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>				

<b>130618</b>	<b>Community And Public Health Nutrition</b>			
Subject:	Catalog Nbr:			

# Course Bulletin

NUTR	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 communities are implement 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.</p>					

<b>130716</b>	<b>Humanitarian Action In Complex Emergencies</b>				
	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>					

<b>130855</b>	<b>International Ngo's: Ethics And Management Practice</b>				
	Subject:	Catalog Nbr:			
	NUTR	0230			
<p>The course first examines the role and relevance of The course first examines the role and relevance of the non-governmental sector with a view to understanding the concepts underpinning NGO management,</p>					



# Course Bulletin

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. 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.

<b>130915</b>	<b>Fundamentals Of GIS</b>				
	Subject:	Catalog Nbr:			
	NUTR	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>					

<b>130952</b>	<b>Nutrition Epidemiology Journal Club</b>				
	Subject:	Catalog Nbr:			
	NUTR	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>					

<b>131013</b>	<b>Agricultural Science And Policy I</b>				
	Subject:	Catalog Nbr:			
	NUTR	0233			

# Course Bulletin

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 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.</p>			

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

<b>131317</b>	<b>Practicum In Bioresearch Techniques</b>		
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>			

<b>131352</b>	<b>Economics Of Food Policy Analysis</b>		
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)</p>			

# Course Bulletin

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.

<b>131383</b>	<b>Emerging Technologies And Nutrition Communication</b>			
Subject:	Catalog Nbr:			
NUTR	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>				

<b>131447</b>	<b>Nutrition Science Journal Club</b>			
Subject:	Catalog Nbr:			
NUTR	0240			
2014 SPRG	Secondary	Nicola McKeown	nicola.mckeown@tufts.edu	
2015 SPRG	Primary	Jeffrey Blumberg	jeffrey.blumberg@tufts.edu	
2015 SPRG	Secondary	Paul Jacques	paul.jacques@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 &amp; 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>				

<b>131468</b>	<b>Food for All: Ecology, Biotechnology &amp; Sustainability</b>			
---------------	--	--	--	--

# Course Bulletin

Subject:      Catalog Nbr:  
NUTR          0241

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:

- (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.

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

<b>132248</b>	<b>Nutrition In The Life Cycle</b>
Subject: NUTR	Catalog Nbr: 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.	

<b>132280</b>	<b>Risk And Disaster Management</b>
Subject: NUTR	Catalog Nbr: 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,	

# Course Bulletin

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 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.

<b>132292</b>	<b>Determinants Of U.S. Food Policy</b>			
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>				

<b>132320</b>	<b>Nutrition, Food Security, And Development</b>			
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>				

<b>132334</b>	<b>Nutritional Epidemiology</b>			
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.</p>				

# Course Bulletin

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 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.

<b>132349</b>	<b>Communicating Health Information To Diverse Audiences, Part B</b>			
Subject: NUTR	Catalog Nbr: 0306			
2014 FALL	Primary	Laurie Larusso	Laurie.Larusso@tufts.edu	
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.				

<b>132363</b>	<b>Regression Analysis For Nutrition Policy</b>			
Subject: NUTR	Catalog Nbr: 0307			
2015 SPRG	Primary	Parke Wilde	Parke.Wilde@tufts.edu	
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.				

<b>132377</b>	<b>Nutrition In Complex Emergencies</b>			
Subject: NUTR	Catalog Nbr: 0308			
2015 SPRG	Primary	Erin Boyd	Erin.Boyd@tufts.edu	
(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.				

# Course Bulletin

<b>132392</b>	<b>Statistical Methods For Nutrition Research II</b>			
Subject: NUTR	Catalog Nbr: 0309	2015 SPRG	Primary	Gerard Dallal
				Jerry.Dallal@tufts.edu
<p>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</p>				

<b>132420</b>	<b>Qualitative Research Methods For Nutrition</b>			
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>				

<b>132434</b>	<b>Nutrition Data Analysis</b>			
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>				

<b>132447</b>	<b>Nutrition and Chronic Disease</b>			
Subject:	Catalog Nbr:			

# Course Bulletin

NUTR	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>					

<b>132462</b>	<b>Nutritional Assessment</b>				
	Subject:	Catalog Nbr:			
	NUTR	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. Credit: 0.5</p>					

<b>132476</b>	<b>Design Of Epidemiologic Studies For Nutrition Research</b>				
	Subject:	Catalog Nbr:			
	NUTR	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>					

<b>132516</b>	<b>Applied Nutritional Biochemistry</b>				
	Subject:	Catalog Nbr:			
	NUTR	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>					



# Course Bulletin

<b>132530</b>	<b>Advanced Medical Nutrition Therapy</b>				
Subject:	Catalog Nbr:				
NUTR	0316				
2015 SPRG	Primary	Kelly Kane	Kelly.Kane@tufts.edu		
2015 SPRG	Secondary	Kathrina Prelack	kprelack@tufts.edu		
<p>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.</p>					

<b>132544</b>	<b>Positive Deviance For Behavior Change: A Course For Practitioners</b>				
Subject:	Catalog Nbr:				
NUTR	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>					

<b>132557</b>	<b>Statistical Methods For Epidemiology</b>				
Subject:	Catalog Nbr:				
NUTR	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>					

<b>132570</b>	<b>Intermediate Epidemiology</b>				
Subject:	Catalog Nbr:				
NUTR	0319				
2015 SPRG	Primary	Fang Fang Zhang	Fang_Fang.Zhang@tufts.edu		

# Course Bulletin

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 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.

<b>132584</b>	<b>Nutritional Impact On The Immune System And Related Diseases</b>			
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>				

<b>132599</b>	<b>Dietary Antioxidants And Degenerative Diseases</b>			
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>				

<b>132614</b>	<b>Humanitarian Studies In The Field</b>			
Subject: NUTR	Catalog Nbr: 0324			
2014 SPRG	Primary	Peter Walker	No Email on file.	
2015 SPRG	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu	
<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</p>				

# Course Bulletin

assessments, field cluster sampling techniques, application of minimum standards for food security, and operational approaches to relations with the military in humanitarian settings. Credit:

<b>132626</b>	<b>Science Based Interventions for Child Malnutrition</b>			
Subject:	Catalog Nbr:			
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>				

<b>132640</b>	<b>International Food And Agricultural Trade</b>			
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>				

<b>132654</b>	<b>Food Systems</b>			
Subject:	Catalog Nbr:			
NUTR	0327			
<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 &amp; 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.</p>				

# Course Bulletin

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).

<b>132667</b>	<b>Understanding Nutrition Science Using Systematic Review And Meta Analysis</b>			
Subject:	Catalog Nbr:			
NUTR	0328			
<p>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.</p>				

<b>132680</b>	<b>Agricultural Science And Policy II</b>			
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>				

<b>132694</b>	<b>Senior Clinical Rotations</b>			
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>				

<b>132709</b>	<b>Nutritional Genomics And Epigenomics</b>			
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</p>				

# Course Bulletin

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.

<b>132722</b>	<b>Economics Of Agriculture And The Environment</b>			
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>				

<b>132736</b>	<b>Nutritional Biochemistry And Physiology: Macronutrients</b>			
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>				

<b>132750</b>	<b>Nutritional Biochemistry And Physiology: Micronutrients</b>			
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>				

# Course Bulletin

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

<b>132774</b>	<b>Ms Cont Full Time</b>	
Subject: NUTR	Catalog Nbr: 0396	

<b>135600</b>	<b>Directed Study</b>		
Subject: NUTR	Catalog Nbr: 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	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	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	xiang-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	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	Christian Peters	Christian.Peters@tufts.edu
2015 SPRG	Primary	Sara Folta	sara.folta@tufts.edu
2015 SPRG	Primary	Edward Saltzman	edward.saltzman@tufts.edu
2015 SPRG	Primary	Alice Lichtenstein	alice.lichtenstein@tufts.edu
2015 SPRG	Primary	Gail Rogers	gail.rogers@tufts.edu
2015 SPRG	Primary	Lynne Ausman	lynne.ausman@tufts.edu
2015 SPRG	Primary	Chung-Yen Chen	Oliver.Chen@tufts.edu
2015 SPRG	Primary	Jimmy Crott	Jimmy.Crott@tufts.edu
2015 SPRG	Primary	Eileen Kennedy	Eileen.Kennedy@tufts.edu

# Course Bulletin

2015 SPRG

Primary

Timothy Griffin

Timothy.Griffin@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.

<b>135642</b>	<b>Doctoral Candidacy Preparation</b>
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.	

<b>135681</b>	<b>Advanced Analytic Methods For Nutrition Policy Research</b>
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.	

<b>135708</b>	<b>Phd Thesis Only Part Time</b>
Subject: NUTR	Catalog Nbr: 0402

<b>135787</b>	<b>Ph.d. Thesis Only</b>
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.	

<b>135801</b>	<b>Food And Nutrition Policy Doctoral Research Seminar</b>
---------------	--

# Course Bulletin

Subject:	Catalog Nbr:			
NUTR	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 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			



# Course Bulletin

<b>138792</b>	<b>Genetics &amp; Epidmiology</b>
Subject: CRBU	Catalog Nbr: 0701

<b>138793</b>	<b>Microeconomic Thoery</b>
Subject: CRBU	Catalog Nbr: 0501
Microeconomic Thoery	

<b>138794</b>	<b>Advanced Microeconomics</b>
Subject: CRBR	Catalog Nbr: 0301

<b>138795</b>	<b>Graduate Bioinformatics</b>
Subject: CRBC	Catalog Nbr: 0616

<b>138799</b>	<b>Anthropology of Food and Nutrition</b>
Subject: NUTR	Catalog Nbr: 0330
2015 SPRG	Primary
Ellen Messer	<a href="mailto:ellen.messer@tufts.edu">ellen.messer@tufts.edu</a>

<b>138928</b>	<b>MARKETING OPER MANAGEMNT</b>
Subject: CRBC	Catalog Nbr: 0705

<b>138929</b>	<b>MUSCLE BIO HLTH &amp; DISEAS</b>
Subject: CRBU	Catalog Nbr: 0560

<b>138930</b>	<b>TPC ADVANCE ECONOMETRICS</b>
---------------	---------------------------------

# Course Bulletin

Subject:	Catalog Nbr:
CRBU	0711

<b>138931</b>	<b>BIOLOGICAL DATABASE ONLY</b>
---------------	---------------------------------

Subject:	Catalog Nbr:
CRBU	0768

<b>138932</b>	<b>MASS SPEC&amp;FUNCTNL GENOMC</b>
---------------	-------------------------------------

Subject:	Catalog Nbr:
CRBU	0793

<b>138933</b>	<b>SUPPLY CHAIN MANAGEMENT</b>
---------------	--------------------------------

Subject:	Catalog Nbr:
CRBU	0854

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

Subject:	Catalog Nbr:
CRBU	0620

<b>138957</b>	<b>Comp. Bio of Human Disease</b>
---------------	-----------------------------------

Subject:	Catalog Nbr:
CRBU	0500

<b>138959</b>	<b>Proteins, Mass Spectrometry &amp; Functional Genomics</b>
---------------	--

Subject:	Catalog Nbr:
CRBU	0792

<b>139037</b>	<b>STATISTICAL METHODS EPI</b>
---------------	--------------------------------

Subject:	Catalog Nbr:
CRBU	0852

# Course Bulletin

--

<b>139207</b>	<b>Nutritional Biochemistry with Community/Clinical Applications: Macronutrients</b>			
Subject:	Catalog Nbr:			
NUTB	0205			
2013 FALL	Primary	Alice Lichtenstein	alice.lichtenstein@tufts.edu	
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>				

<b>139208</b>	<b>Economics for Food and Nutrition Policy</b>			
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>				

<b>139209</b>	<b>Statistical Methods for Health Professionals I</b>			
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>				

# Course Bulletin

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

<b>139239</b>	<b>Intermediate Biostatistics: Regression Methods</b>			
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>				

<b>139241</b>	<b>Food Security and Nutrition in Emergencies</b>			
Subject: NUTC	Catalog Nbr: 0232			
2015 SPRG	Primary	Daniel Maxwell		Daniel.Maxwell@tufts.edu
2015 SPRG	Primary	Katherine Sadler		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>				

<b>139243</b>	<b>Statistical Methods for Health Professionals II</b>			
Subject: NUTB	Catalog Nbr: 0350			
2015 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</p>				

# Course Bulletin

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.

<b>139371</b>	<b>Directed Study</b>			
Subject: NUTR	Catalog Nbr: 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	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	
2015 SPRG	Primary	Sara Folta	sara.folta@tufts.edu	
2015 SPRG	Primary	Johanna Dwyer	johanna.dwyer@tufts.edu	
2015 SPRG	Primary	Sean Cash	Sean.Cash@tufts.edu	
Directed study to be used with a letter/numeric grading basis				

<b>139426</b>	<b>Nutrition Child Development</b>			
Subject: NUTR	Catalog Nbr: 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 &amp; 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>				

<b>139427</b>	<b>Food Politics and Policy in the US</b>			
Subject: NUTR	Catalog Nbr: 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</p>				

# Course Bulletin

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

<b>139428</b>	<b>Food Systems Modeling and Analysis</b>			
Subject:	Catalog Nbr:			
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>				

<b>139439</b>	<b>Community Organizing</b>			
Subject:	Catalog Nbr:			
CRBU	0781			

<b>139456</b>	<b>Nutritional Biochemistry with Community/Clinical Applications: Micronutrients</b>			
Subject:	Catalog Nbr:			
NUTB	0305			
2015 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>				

<b>139457</b>	<b>Global Nutrition Programs</b>			
Subject:	Catalog Nbr:			
NUTB	0227			
2014 SPRG	Primary	Kristy Hendricks		kristy.hendricks@tufts.edu
2015 SPRG	Primary	Sujata Dixit-Joshi		Sujata.Dixit_Joshi@tufts.edu

# Course Bulletin

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.

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.

<b>139458</b>	<b>Theories of Behavior Change</b>			
Subject:	Catalog Nbr:			
NUTB	0211			
2015 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>				

<b>139459</b>	<b>Interpreting Nutrition Evidence</b>			
Subject:	Catalog Nbr:			
NUTC	0230			
2015 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>				

<b>139468</b>	<b>Obesity and Energy Regulation</b>			
Subject:	Catalog Nbr:			
NUTB	0242			
2015 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</p>				

# Course Bulletin

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.

<b>139509</b>	<b>Systematic Reviews: Theory and Practice</b>		
Subject: NUTR	Catalog Nbr: 0369		
<p>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.</p> <p>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.</p> <p>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.</p>			

<b>139570</b>	<b>Directed Study</b>		
Subject: NUTR	Catalog Nbr: 0297		
2014 SPRG	Primary	Peter Walker	No Email on file.
2014 SPRG	Primary	Daniel Maxwell	Daniel.Maxwell@tufts.edu
2015 SPRG	Primary	Johanna Dwyer	johanna.dwyer@tufts.edu
2015 SPRG	Primary	Sean Cash	Sean.Cash@tufts.edu
Directed study to be used with a letter/numeric grading basis.			

<b>139588</b>	<b>Biology II: Cells, Genetics, Development and Physiology</b>		
Subject: CRBU	Catalog Nbr: BI108		



# Course Bulletin

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

<b>139617</b>	<b>Policy, Systems, and Environmental Change for Physical Activity</b>			
Subject:	Catalog Nbr:			
NUTC	0212			
2014 SUMR	Primary	Rebecca Boulos		Rebecca.Boulos@tufts.edu
2014 SUMR	Primary	Richard Fenton		Mark.Fenton@tufts.edu

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

<b>139619</b>	<b>Master's Thesis</b>			
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.				

<b>139620</b>	<b>Global Food and Nutrition Policy</b>			
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</p>				

# Course Bulletin

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.

<b>139621</b>	<b>Management of Health and Nutrition NGO's</b>			
Subject: NUTB	Catalog Nbr: 0208			
2014 SUMR	Primary	David Hastings	david.hastings@tufts.edu	
<p>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 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.</p>				

<b>139622</b>	<b>Advanced Medical Nutrition Therapy</b>			
Subject: NUTB	Catalog Nbr: 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>				

<b>139777</b>	<b>Scientific Principles Of Human Nutrition And Food</b>			
Subject: NUTC	Catalog Nbr: 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</p>				

# Course Bulletin

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.

139834	Behavior Change Theory and Positive Deviance			
Subject: NUTC	Catalog Nbr: 0213			
2015 SPRG	Primary	Sara Folta		sara.folta@tufts.edu
2015 SPRG	Primary	Emily Vikre		Emily.Vikre@tufts.edu
2015 SPRG	Primary	Randa Wilkinson-Bouvier		Randa.Wilkinson_Bouvier@tufts.edu
<p>How do you achieve behavior change in challenging circumstances? This course explores that question, first 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.</p>				

139852	Epidemiology for Nutrition Professionals			
Subject: NUTB	Catalog Nbr: 0204			
2015 SPRG	Primary	Silvina Choumenkovitch		silvina.choumenkovitch@tufts.edu
2015 SPRG	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: NUTB	Catalog Nbr: 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&amp;E) represent a major constraint in domestic and</p>				

# Course Bulletin

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.

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

<b>139855</b>	<b>Nutrition and Aging</b>			
Subject:	Catalog Nbr:			
NUTB	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>				

<b>139856</b>	<b>Food Science Fundamentals</b>			
Subject:	Catalog Nbr:			
NUTB	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.</p>				

# Course Bulletin

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.

<b>139922</b>	<b>Cardiovascular Epi II</b>
Subject: CRHA	Catalog Nbr: EPI245

<b>140094</b>	<b>Sustainability on the Farm</b>
Subject: NUTC	Catalog Nbr: 0261
2014 FALL	Primary
Timothy Griffin	Timothy.Griffin@tufts.edu
<p>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.</p>	

<b>140108</b>	<b>Biology of Muscle Wellness &amp; Disease</b>
Subject: CRBU	Catalog Nbr: HS560

<b>140148</b>	<b>Introduction to Epidemiology</b>
Subject: CRBU	Catalog Nbr: 713

<b>140163</b>	<b>Principles of General Chemistry</b>
Subject: CRBU	Catalog Nbr: CAS171

# Course Bulletin

<b>140277</b>	<b>Genetic Epidemiology</b>	
	Subject: CRHA	Catalog Nbr: 507

<b>140278</b>	<b>Bayesian Methodology in Biostatistics</b>	
	Subject: CRHA	Catalog Nbr: 249
Bayesian Methodology in Biostatistics		

<b>140279</b>	<b>Econometrics for Health Policy</b>	
	Subject: CRHA	Catalog Nbr: 525
Econometrics for Health Policy		

<b>140280</b>	<b>Population, Health, and Development</b>	
	Subject: CRHA	Catalog Nbr: 225
Population, Health, and Development		

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

<b>140373</b>	<b>Sustainable Food Systems and Markets</b>	
	Subject: NUTC	Catalog Nbr: 0262
	2015 SPRG	Primary Jennifer Obadia Jennifer.Obadia@tufts.edu
<p>The food sector, one of the largest components of the U.S. economy, includes transforming raw agricultural products and moving them to retail points of contact. Although highly integrated and increasingly global, the food system does not provide equal access to all consumers and significant food losses occur at all stages of the supply chain. In this course, students will analyze causes of the market failure to provide equal access; explore solutions to minimize losses within the food system; and evaluate alternative supply chains, including values-based, direct to consumer, and food hubs.</p>		

<b>140392</b>	<b>Mass Spectrometry, Proteomics, &amp; Functional Genomics</b>	
---------------	---	--

# Course Bulletin

Subject:	Catalog Nbr:
CRBU	BI793

<b>140478</b>	<b>Environmentally Sustainable Development</b>
---------------	--

Subject:	Catalog Nbr:
CRBU	CAS304

Environmentally Sustainable Development
---

<b>140483</b>	<b>Social Networks in Strategic Communication Planning</b>
---------------	--

Subject:	Catalog Nbr:
CRBU	0737

Social Networks in Strategic Communication Planning
---

<b>140491</b>	<b>Data Mining and Predictive Modeling</b>
---------------	--

Subject:	Catalog Nbr:
CRHA	288

Data Mining and Predictive Modeling
-------------------------------------

<b>140492</b>	<b>Intro to Programming in SAS</b>
---------------	------------------------------------

Subject:	Catalog Nbr:
CRHA	111

Intro to Programming in SAS
-----------------------------

<b>140493</b>	<b>Biological Database Systems</b>
---------------	------------------------------------

Subject:	Catalog Nbr:
CRBU	0768

Biological Database Systems
-----------------------------