

Community Nutrition Program Guide
Department of Food Science and Human Nutrition

Michigan State University

September 2007

Table of Contents

COMMUNITY NUTRITION RESEARCH ADVISORS.....	2
I. INTRODUCTION TO COMMUNITY NUTRITION	3
II. OUR STUDENTS & GRADUATES	5
III. OUR FACULTY	6
IV. RESEARCH FACILITIES	8
• Collaborating Units and Programs	
V. COMMUNITY NUTRITION GRADUATE PROGRAM	10
• Graduate Student Research Progress Review	
ADA DIETETIC REQUIREMENTS	10
APPENDIX.....	11
• Community Nutrition Coursework	

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I. Introduction to Community Nutrition

Community nutrition focuses on improving nutrition for *groups* of people, not individuals. Community nutrition encompasses public health nutrition, which is primarily local, state and federal agency-related. Community, public health and clinical nutrition have in common their focus on detection of early signs of disease (secondary intervention, See **Figure 1**). Community nutrition can also include programs at worksites, schools, businesses and via media communications. Nutritional epidemiology, a branch of medical science, which focuses on nutritional risk factors for diseases of human populations, is also related to community nutrition. Clinical nutrition focuses on the treatment of Advanced Disease (tertiary intervention) and secondary intervention, although increasingly clinical nutrition does some primary intervention as well.

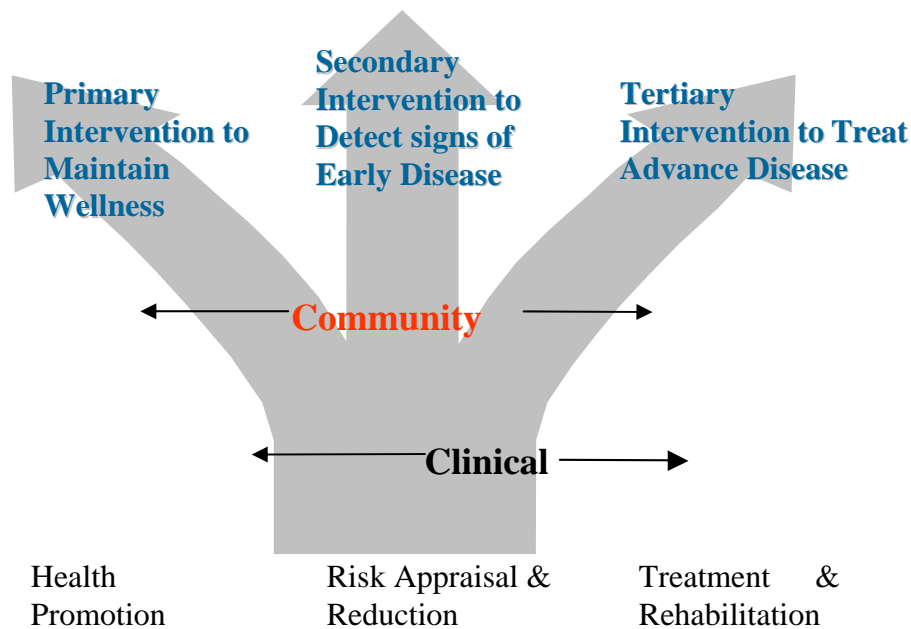


Figure 1. Disease prevention continuum demonstrates the overlap between community and clinical nutrition at the secondary level of intervention.

The breadth and depth of community nutrition is depicted in **Figure 2**. For example, the Supplemental Nutrition Program for Women, Infants and Children (WIC) targets pregnant and lactating limited income women and their children up to age 5 years at the secondary level of prevention, because WIC clients must have some level of risk. WIC is a national program delivered at the city/county level and often evaluated at the state and federal levels. Community nutrition can target groups of people across the life span for various levels of intervention and evaluation.

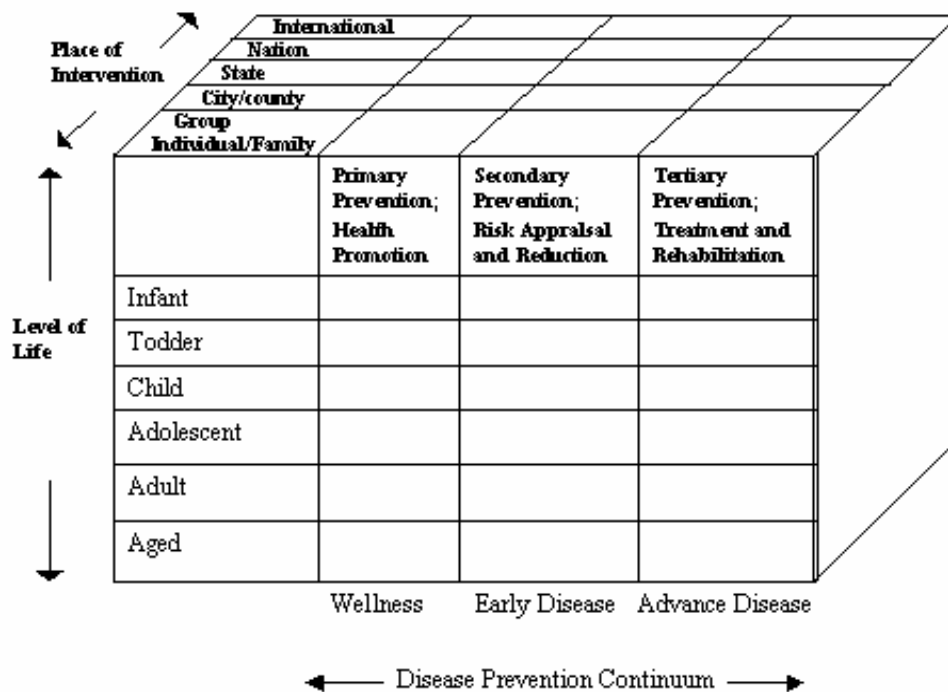


Figure 2. The multiple dimensions of community nutrition at which assessment, intervention and evaluation can occur.

The Community Nutrition emphasis of the Human Nutrition graduate program at MSU focuses on research and education in community settings and generation of new findings from local, national and international databases to enhance public health. Community nutrition at MSU is a graduate program only, building upon a baccalaureate in dietetics, nutritional science or related areas. The goal of the community nutrition graduate program at MSU is to generate new knowledge through cutting-edge research on the promotion of health and prevention of diet-related chronic diseases such as obesity, diabetes, cancer and cardiovascular diseases, and nutritional imbalances related to inappropriate food consumption patterns or underlying socio-psychological factors. Research foci are to identify and assess nutritional risk factors and their predictors, improve the efficacy of health promotion programs in various settings for diverse target populations, and develop and evaluate appropriate interventions to improve health at the local, state, national and international levels.

In response to rapid expansion in research methods, tools and technologies, plus ever changing health concerns, needs and demographics of society, the faculty in the community nutrition graduate program of MSU have established collaborations with researchers in extension education, epidemiology, sociology, kinesiology, psychology, statistics, counseling, medicine and nursing. These collaborative efforts allow our students to develop individualized programs to meet their professional goals.

II. Our Students & Graduates

The Community Nutrition Graduate Program at MSU attracts a diverse group of students, both geographically and ethnically; who bring with them varied educational backgrounds, experiences and training. At any one time our program trains about 15 graduate students, visiting scholars, post-doctoral fellows and specialists. Community nutrition graduate students are expected to plan and successfully complete their theses or dissertation research, focusing on community nutrition assessment, program planning and evaluation, and/or a related area. Students should demonstrate competency in several of the following areas:

- Advanced nutritional sciences, required
- Research methods with graduate level statistics
- Social and behavioral sciences
- Scientific communications with/for professionals as well as lay audiences
- Education theory and research design
- Public health nutrition and epidemiology
- Organization, administration, and evaluation of community nutrition programs
- Community focused clinical nutrition

Most community nutrition graduate students are supported in the forms of research assistantships, graduate fellowships, teaching assistantships, administrative assistantships or student employment. The graduate faculty members in community nutrition maintain extramural funding support for their research programs through various sources including the federal and state government, food industry, professional organizations, foundations, food commodity groups and others. The graduate assistantships ($\frac{1}{4}$ or $\frac{1}{2}$ time appointment) include:

- Exemption from out-of-state tuition.
- Tuition for nine credits.
- Health insurance.
- Eligible to enroll for the optional accident coverage.
- Priority in University Housing.
- Eligible for campus parking permits.
- Two weeks vacation plus official university holidays

Our program in community nutrition has prepared graduates to hold responsible positions in public health agencies, academia, the food industry, and as communicators, consultants, or entrepreneurs. Graduates of the Community Nutrition Graduate Program at MSU are currently working as specialists in their areas of graduate training. A few examples include:

- Public health nutrition education
- Survey researcher/ state nutrition
- Epidemiology
- Private consulting
- Dietetics instruction
- College faculty
- Nutrition product sales

III. Our Faculty

The faculty members in the community nutrition graduate program at MSU are mostly trained Registered Dietitians and leaders in their areas of research. They are also officers of professional organizations at the state, national and international levels, editorial board members, reviewers of professional journals, reviewers of competitive national nutrition grant programs, and winners of various awards and grants.

Katherine Alaimo, Ph.D., Assistant Professor

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Degrees: B.S. 1991, Nutritional Science; Cornell University

M.S. 1995, Community Nutrition; Cornell University

Ph.D. 2000, Community Nutrition; Cornell University

Research: U.S. hunger and its consequences for children; community food security; benefits of urban agriculture/community gardening for public health, neighborhood social capital, and urban redevelopment; promoting healthy eating and physical activity through policies and environments; community-based participatory research.

Teaching: Introduction to Human Nutrition

Mike Hamm, Ph.D., C.S. Mott Chair of Sustainable Agriculture

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Degrees: B.A. 1974, Biology; Northwestern University

Ph.D. 1979, Nutrition; University of Minnesota

Research: Community-based food systems & security; structural issues & trends in food systems to move producers & consumers towards sustainable food systems; socially/economically constructive linkages of farmers & consumers

Sharon Hoerr, Ph.D., R.D., Professor

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Degrees: B.S. 1971, Nutritional Sciences, Dietetics (dual major); University of Illinois, Champaign-Urbana.

M.S. 1976, Community Health, School Health Education (dual major); University of Illinois, Champaign-Urbana.

Ph.D. 1985, Nutritional Sciences; University of Illinois, Champaign-Urbana.

Research: Nutritional status and food behaviors of children, youth, young adults and limited-income; weight management behaviors; theory-based health behavior change.

Teaching: 1) Community Nutrition Assessment; 2) Facilitating Behavior Change, Theory and Practice; 3) Community Nutrition)

Beth H. Olson, Ph.D., Assistant Professor and Extension Nutrition Specialist

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Degrees: B.S. 1985, Biochemistry; University of Wisconsin, Madison

M.S. 1987, Nutrition; University of California, Davis

Ph.D., 1995, Nutrition; University of California, Davis

Research: Maternal and infant nutrition, particularly breastfeeding barriers; Childhood obesity; Role of fortified and functional food in nutrition.

Extension: Breastfeeding; Obesity; Communication of research to extension staff; Scientific review of programs and materials, Liaison to local, state and federal partners.

Won O. Song, Ph.D., M.P.H., R.D., Professor

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Degrees: B.S. 1973, Food and Nutrition; Ewha Woman's University, Korea
MPH 1975, Public Health Nutrition; School of Public Health, Seoul National University
M.S. 1978, Nutrition; University of Iowa
Ph.D. 1983, Nutrition; Utah State University

Research: Food consumption patterns in relation to health risks of national populations; Assessment of nutritionally high-risk population groups; Nutritional epidemiology; Worksite wellness programs

**Lorraine J. Weatherspoon Ph.D., R.D., Associate Professor and
Didactics Program in Dietetics Director**

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E-mail: weathe43@msu.edu; <http://fshn.msu.edu/directory/facultyWeatherspoon.html>

Degrees: B.S. 1980, Dietetics; University of Natal, South Africa.
M.S. 1987, Family Resources; Clinical Nutrition; West Virginia University
Ph.D. 1992, Human Nutrition; The Pennsylvania State University

Research: Diet-related chronic disease risk factors and issues in underserved populations, with a special interest in Type 2 Diabetes (Prevalence, Incidence, Control & Complications); Elderly Nutrition Concerns, Community nutrition Intervention Programs, International Nutrition Issues

Teaching: 1) Life cycle nutrition, 2) Socio-cultural aspects of food and eating.

IV. Research Facilities

Nutrition Assessment Laboratory in FSHN

Developed for the purpose of teaching health professionals, the Nutrition Assessment Laboratory is located in G.M. Trout Food Science and Human Nutrition Building, in 1400 sq. ft of laboratory space. The laboratory is equipped for research and teaching with the following: six desktop and laptop computers, dietary assessment software, anthropometric equipment (height and recumbent boards, bioelectric impedance equipment, skinfold calipers, and adult and baby weight scales), blood pressure measurement equipment, portable hemoglobin photometers, statistical software, food models and measuring utensils for dietary assessment, nutrition assessment library and nutrition education materials for children, youth and adults. (<http://www.msu.edu/~hoerrs/projects.htm>)

Food and Nutrition Database Research Laboratory (FNDRC) in FSHN

This research laboratory supports research in consumer food consumption patterns, nutrition education, food marketing, and public nutrition policy for food commodity groups, food industry, government agencies, public health professionals, professional health organizations and consumer organizations. The laboratory is housed in G. M. Trout Food Science and Human Nutrition Building in about 1400 sq. ft. laboratory space. It is equipped for research, teaching and service with the following: 13 state-of-the-art desktop and laptop computers operated under a network system, most current statistical packages (SAS, SPSS, SUDAAN, EPIINFO, WESVAR) and diet analysis software; and an extensive library of national and state databases on food, nutrition and health surveys.

Collaborating Units and Programs

- **MSU Extension** (<http://www.msue.msu.edu/home/>)¹ **Food, Nutrition and Health** in the Children, Youth and Families (CYF) Program, offers education to support healthy lifestyles for families and individuals¹. Research-based programs assist families make positive choices related to food, nutrition, health and food safety. More than 44,000 volunteers statewide support the efforts of MSUE state and county-based staff members and reach more than 450,000 Michigan residents yearly through educational programs. Campus-based Extension staff members provide staff development for county CYF agents, develop curricula and materials for programs and provide administrative oversight and leadership.

The Community nutrition graduate program and MSU Extension collaborate in teaching, research and outreach related to community-based efforts. MSUE has unique access networks to reach people within the state, especially those with limited income, via programs such as the Expanded Food and Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP). Such access leads to research in program planning and evaluation relevant to people's perceived needs. Extension benefits by access to faculty, expertise and resources. The department and graduate students are benefited by the following:

¹ MSUE is a network of 83 county MSU Extension offices staffed by county extension directors, program leaders, specialists, agents and program associates. The county staff members are supported by central administration, program leaders, agents, and specialists at Michigan State University. *Mission: Helping people improve their lives through an educational process that applies knowledge to critical needs, issues and opportunities.*

- interesting, relevant research projects such as those with limited income homemakers and their preschool children
 - Population access for grant writing
 - Access to supervised practice positions for students to refine skills
 - Education about Extension as a cost-effective source of information and a potential source of employment.
- **Applied Developmental Science (ADS)** (<http://www.msu.edu/user/adsatmsu/>) is an actively engaged in the evaluation of 0-5 child development programs and some graduate students may choose to specialize in this area.
- **Health 4U** (<http://www.health4u.msu.edu/aboutus/index.html>) creates an environment at Michigan State University that supports health. Health 4U aims to enhance and expand wellness efforts in partnership with units throughout the University and the community.
- **Interdepartmental Graduate Specialization in Infant Studies (IGSIS)** (<http://www.msu.edu/user/sswmsw/igsiec.html>). The interdepartmental graduate specializations in infant studies are available as electives for students who are enrolled in the master's and doctoral degree programs in various departments including Food Science and Human Nutrition. The College of Social Science administers these specializations.
- **Epidemiology Certification Program** (<http://www.epi.msu.edu/academic/certificate.htm>) The Department of Epidemiology, located within Michigan State University's College of Human Medicine, offers both a Master of Science in Epidemiology and a Certificate in Epidemiology.
- **Other Off-campus Units for Interaction**
- Departments of State Government (Lansing is the Capitol of Michigan.)
<http://www.michigan.gov>
 - Outreach Offices, e.g., Community Kitchen, Head Start, WIC
 - Food Industry, e.g., Kellogg Company, Gerber Foods

V. Community Nutrition Graduate Program

Only the students choosing one of the faculty listed as their major professor can be considered as a graduate in Community Nutrition. Each graduate student in the Human Nutrition Program is expected to develop, in consultation with his/her advisor and guidance committee, an individualized graduate research and academic program to meet his/her professional goals. (See the Graduate Student Handbook of the Department of Food Science and Human Nutrition.

(<http://fshn.msu.edu/handbooks/GraduateProgramHandbookSeptember2007.pdf>)

Graduate students are required to develop a thesis (MS plan A) or a dissertation (Ph.D.) research proposal. Students can also obtain a terminal MS degree without a thesis (MS plan B). Research hypotheses in the proposal should be generated based on scientific observations and knowledge gained from courses in one or more of the following areas: nutritional and food sciences, nutritional assessment, nutritional epidemiology, statistics, education, psychology, program evaluation, extension education, international health, health policy, anthropology and sociology, kinesiology, communications, computer sciences, marketing, and others. (See the courses in the **Appendix** attached).

Graduate Student Research Progress Review

Graduate students in community nutrition participate in an annual research progress review which consists of both a written report (≤ 6 numbered pages) and a presentation (10 minutes) on research. The purposes of the review are to provide community nutrition graduate students with the opportunity for feedback from all participating faculty and other graduate students about their research and graduate program progress; to provide community nutrition graduate students the opportunity to report, explain and defend their research projects in a collegial atmosphere; and to enhance the interaction between and among faculty and students. Community nutrition graduate students are expected to attend all presentations and participate in the discussions after each. New graduate students are expected to attend and research committee members should be invited to attend.

ADA Dietetic Requirements

Community nutrition graduate students at MSU are encouraged (but not required) to take advantage of the MSU's nationally recognized Dietetic Program in Dietetics to become a Registered Dietitian. Graduate students have their transcripts evaluated by the Director of the Didactic Program in Dietetics to identify courses required to meet American Dietetics Association (ADA) knowledge requirements. Students must complete a supervised practice program (ADA internship) after meeting the course requirements. Graduates who have completed M.S. and/or Ph.D. research in Community nutrition at MSU have been very successful in national competition for internship positions and in passing the national Registration Examination. No student can be guaranteed dietetic internship placement, because it is a national application process. Meeting ADA requirements and completing an internship is in addition to completing a graduate degree in community nutrition graduate program.

The MSU dietetic curriculum at the undergraduate level is designed to meet the knowledge requirements for entry-level dietitians as approved by the Commission on Accreditation/Approval for Dietetic Education, The American Dietetic Association. Graduates of the MSU dietetic program meet the minimum academic requirements to apply for the post-baccalaureate supervised accredited/approved professional experience essential for eligibility to write the National Examination for Registration Dietitians.

APPENDIX

Community Nutrition Course Work (Check the MSU homepage for newest update):
<http://www.reg.msu.edu/Courses/Search.asp>

M.S. Program

(A minimum of 30 credits is required, of which 16 or more are at least 800 or higher levels)¹

Core Courses

		Credits	Offered
HNF 843	Community Nutrition Assessment	3	Sp(odd)
HNF 892	Nutrition Seminar	1	F,Sp
HNF 899	Master's Thesis Research	6-10	F,Sp,Su
BMB	One or more 400 level course; such as 401, 402, 461, 462	3	
PSL 431 and/or 432	Physiology ²	3	
CEP 933	Quantitative Methods in Educational Research ³	4	F, Sp

Prerequisite Courses

HNF 375	Community Nutrition	3	F
HNF 376/453	Nutrition and Human Development	3	S
HNF 461	Advanced Human Nutrition: Carbohydrates, Lipids and Proteins	3	F
HNF 462	Advanced Human Nutrition: Vitamins and Minerals	3	F

Highly Recommended

HNF 891	Health Behavior Change	3	Sp(even)
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Recommended Elective Courses

Nutritional Science

HNF 465	Nutritional Pathophysiology	3	F
HNF 466	Medical Nutrition Therapy	4	Sp
HNF 840	Human Nutrition and Chronic Diseases	4	Sp
HNF 890	Supervised Individual Study	var	Sp, Su, F

Food Science

FSC 490	Special Problems in Food Science: Functional Foods	3	Sp
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Biological Science

KIN 810	Physiology of Physical Activity	3	F
KIN 811	Physiological Evaluation and Exercise Prescription	2	F
KIN 812	Cardiovascular, Respiratory, and Metabolic Responses to Exercise	3	Sp (even)
KIN 813	Neuromuscular & Endocrine Response to Exercise	3	Sp (odd)

Statistics

STT 421, sect. 2	Statistics I	3	F
STT 422, sect. 2	Statistics II	3	F
CEP 934, 935	Multivariate Statistics I, II	4	Sp (I), F (II)
CEP 991B	Categorical Data Analysis	4	F, (even)

¹ No more than one (or two; under discussion by Nutrition Faculty) courses from HNF 461, 462, 453, 466 can be applied to the M.S. degree.

² Some students may substitute KIN 810 and 811 at the discretion of the guidance committee.

³ Or equivalent statistics class at the discretion of one guidance committee.

CEP 991B	Counseling Education Psychology	4	S (odd)
PSY 815	Quantitative Research Design and Analysis in Psychology	4	F
PSY 817	Psychometric Methods	4	Sp
PSY 818 ¹	Psychometric Theory, and Test Construction	3	Sp
STT 801	Design of Experiments	3	F (odd)
STT 825	Sample Surveys	3	F
STT 842	Categorical Data Analysis	3	Sp (odd)
STT 843	Multivariate Analysis	3	Sp (even)
STT 844	Time Series Analysis	3	Sp
SOC 881 ²	Analysis of Social Data I	4	F
SOC 882 ²	Analysis of Social Data II, some factor analysis	4	S
NUR 813	Applied Research and Evaluation	4	S

Research Methods³

SOC 954 ²	Techniques of Population Analysis	3	Sp (odd)
CEP 937	Survey Research Methods	4	F (odd)
PSY 865	Research Methods in Applied Psychology	3	Sp
FCE 880	Research Methods in Family and Child Ecology	3	F, Sp
FCE 892	SPSS - Secondary Data Analyses	Var	F, Sp
AEE 806	Program Planning and Evaluation in Agr. Ext. Educ.	3	Sp (odd)
AEE 807	Research in Agricultural and Extension Education	3	F
AEE 907	Research Project Design and Implementation	3	Sp
SW 832	Applied Social Work: Survey and Field Designs	3	F
	Qualitative methods courses in FCE or SOC		

Epidemiology

EPI 810	Introduction to Descriptive and Analytical Epidemiology	3	F
EPI 814	Nutritional Epidemiology	3	F
U of M	Summer Epidemiology Courses (e.g., SUDAAN)	Var	Su

Survey Methods:

SOC 986 ²	Survey Research Principles	3	Sp
CEP 937	Survey Research Methods in Education	4	Sp (even)
AEC 891C	Field Data Collection and Analysis in Developing Countries	3	Su (odd)

Learning Theory, Teaching Methods, Adult Learning

AEE 803	Instructional Strategies in Agr. Ext. Educ.	3	Sp
FCE 871	Methods of Teaching Adults	3	F (odd)

International Nutrition, Anthropology, Communications

ANP 843	Nutritional Anthropology	3	Sp (odd)
ANP 835	Medical Anthropology II: Theoretical and Applied Issues	3	Sp
CAS 825	Mass Communication on Public Health	3	F
CAS 826	Health Communication for Diverse Population		

¹ Only with permission of instructor.

² SOC courses are open to our students, only if a professor in sociology is on their guidance committee.

³ Qualitative methods courses in FCE or SOC can supplement quantitative coursework.

HNF/FSC 490	Food Safety—Science, Law and Policy	3	F
AEC 874	Field Data Collection and Analysis in Developing Countries	3	Su (odd)
SOC 850 ²	Population, Food and Development	3	F
SOC 851 ²	Demography and Public Health	3	Sp
CAS 825	Mass Communication and Public Health	3	F
CAS 826	Health Communication for Diverse Population		

Development

FCE 811	Child Development: Ecological Perspectives	3	F (even)
FCE 812	Adolescence in the Family: Ecological Perspectives	3	Sp (even)
FCE 813	Adulthood and Aging in the Family: Ecological Persp	3	F(odd)
FCE 822	Assessment of the young child	3	F(even)
PSY 845	Developmental Psychology: Infancy	3	F (even)
PSY 846	Developmental Psychology: Childhood	3	Sp (odd)
PSY 847	Developmental Psychology: Adolescence	3	F (odd)
PSY 848	Developmental Psychology: Adulthood and Aging	3	Sp (even)

Programming

FCE 873	Administration & Management of Human Services Programs	3	Sp (even)
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Ph.D. Program

(A minimum of 24 research credits and core courses are required)

Core Courses

HNF 843	Community Nutrition Assessment	3	Sp (odd)
HNF 892	Nutrition Seminar	2	F, Sp
HNF 935	Lipids and Carbohydrate Metabolism	3	F (even)
HNF 936	Protein Nutrition and Metabolism	3	F (odd)
HNF 937	Vitamins and Mineral Nutrition and Metabolism	3	Sp (even)
HNF 999	Doctoral Dissertation Research	24+	F, Sp, Su
BCH 461	Biochemistry I	3	F
BCH 462	Biochemistry II	3	Sp
CEP 933	Quantitative Methods in Research	4	F, Sp
CEP 934 ¹	Multivariate Data Analyses II or equivalent or higher level courses in statistics Additional course in survey research, statistics or epidemiology or equivalent	4	F
PSL 431	Human Physiology I	3	F
PSL 432	Human Physiology II	3	Sp

Prerequisites

Same as for M.S.

Recommended Elective Courses, **Same as for M.S.**

¹ or SOC 881 and SOC 882