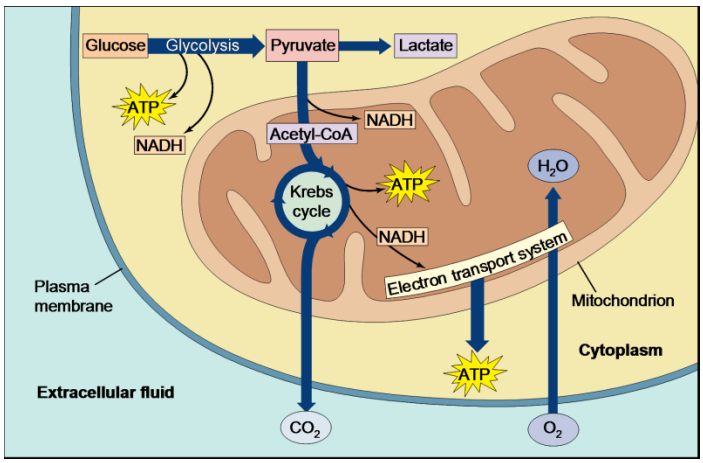
# HANDBOOK FOR

# Nutritional SCIENCES

**A MAJOR EMPHASIZING THE SCIENCE OF NUTRITION FROM:**

## NUTRIENT METABOLISM




## TO APPLICATION

MICHIGAN STATE UNIVERSITY

Department of Food Science and Human Nutrition

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NUTRITIONAL SCIENCES HANDBOOK


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# Introduction

The Nutritional Sciences **major** emphasizes intensive study in biological and physical sciences as a basis for understanding the science of nutrition and the relationships between nutrients and human health. Core course requirements emphasize human nutrition with areas of study in energy metabolism, proteins, vitamins, minerals, community nutrition, and diet in the prevention and treatment of diseases. Supporting discipline courses emphasize biochemistry, biology, chemistry, mathematics, microbiology, physics and physiology.

This major is designed to meet the admissions requirements of most colleges of medicine, dentistry and paramedical colleges while the student pursues a bachelor's degree in a clinically related area. The major also prepares students to enter graduate school programs in nutrition and other life sciences. Graduates in Nutritional Sciences qualify for positions in the food industry, corporate wellness and health promotion programs, public health programs, pharmaceutical sales, and similar occupations.

A Nutritional Sciences **minor** is also available. If you wish to obtain more information about either the **majo**r or **minor**, please contact: Food Science and Human Nutrition Career Center, 106 FSHN Bldg, 469 Wilson Road, Michigan State University, phone 517-355-8474, ext 118 or 182

## Degree Requirements

Listed below please find:

- CANR Graduation Requirements for a BS Degree in Nutritional Sciences
- Sample 4-year Schedule
- LBC Coordinate major in Nutritional Sciences
- Specializations
- Honors College

The Nutritional Sciences major emphasizes intensive study in biological and physical sciences as a basis for understanding the science of nutrition and the relationships between nutrients and human health. Core course requirements emphasize human nutrition with areas of study in energy metabolism, proteins, vitamins, minerals, community nutrition, and diet in the prevention and treatment of disease. Supporting discipline courses emphasize biochemistry, biology, chemistry, mathematics, microbiology, physics and physiology.

I. University Requirements

**Integrative Studies**

| | | | | |
|---|---|---|---|---|
| IAH 2 | | 4 Cr | | Choice of "A" courses (201-210) |
| IAH 2 | | 4 Cr | | Choice of "B" courses (211+) |

| | | | | |
|---|---|---|---|---|
| ISS 2 | | 4 Cr | | Choice of 200-level ISS course |
| ISS 3 | | 4 Cr | | Choice of 300-level ISS course |

**Biological & Physical Sciences***

| | | |
|---|---|---|
| Alternative Track to ISB and ISP | 8 Cr | Total credits in Integrative Studies in Biological and Physical Sciences |

**Students enrolled in the Nutritional Sciences major complete the following alternative track to Integrative Studies in Biological and Physical Sciences, including the laboratory requirement, fulfilled in major: CEM 141 or 151, 161, 162, and PSL 431.*

**Writing**

| | | | | |
|---|---|---|---|---|
| WRA | | 4 Cr | | Writing, Rhetoric, & American Cultures (110-150) |

*Choice of WRA 110-150 satisfies Tier I Writing requirement; min 2.0 grade required. Tier II Writing is completed in the major with FSC 455 and HNF 464.*

| Cr | Total Integrative Studies Credits Completed |
|---|---|

*Required 28 credits*

**Mathematics**

*The University mathematics requirement is met in the Nutritional Sciences major with MTH 124 or MTH 132.*

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II. College of Agriculture & Natural Resources Requirements

**a. Complete *one* of the following courses:**

| | | | | |
|---|---|---|---|---|
| EC 201 | | 3 Cr | | Introduction to Microeconomics |
| EC 202 | | 3 Cr | | Introduction to Macroeconomics |

*Subtotal 3 credits*

b. Mathematics: Met in Nutritional Sciences major with MTH 124 or 132.

*c. At least 26 credits in courses in the College: Nutritional Sciences students have approval to complete a minimum of 21-23 credits in the Dept of Food Science & Human Nutrition.*

*d. The specific requirements for a major in the College, listed in Section III below.*

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III. Nutritional Sciences Major Requirements

**Professional Courses**

**Complete *all* of the following courses:**

| | | | | |
|---|---|---|---|---|
| FSC 211 | | 3 Cr | | Principles of Food Science |
| FSC 455 | | 3 Cr | | Food and Nutrition Laboratory |
| HNF 260 | | 3 Cr | | Principles of Human Nutrition |
| HNF 461 | | 3 Cr | | Advanced Human Nutrition: Carbohydrates, Lipids, & Proteins |
| HNF 462 | | 3 Cr | | Advanced Human Nutrition: Vitamins and Minerals |
| HNF 464 | | 4 Cr | | Nutrition in the Prevention and Treatment of Disease |

*Subtotal 19 credits*

**Complete *one* of the following courses:**

| | | | | |
|---|---|---|---|---|
| HNF 375 | | 2 Cr | | Community Nutrition |
| HNF 406 | | 3 Cr | | Sociocultural Aspects of Food |
| HNF 471 | | 4 Cr | | Medical Nutrition Therapy I |

*Subtotal 2-4 credits*

**Supporting Discipline courses**

**Complete *all* the following courses:**

| | | | | |
|---|---|---|---|---|
| CEM 141 or<br>CEM 151 or<br>CEM 181H | | 4 Cr | | General Chemistry<br>General and Descriptive Chemistry<br>Honors Chemistry I |
| CEM 142 or<br>CEM 152 or<br>CEM 182H | | 3 Cr | | General and Inorganic Chemistry<br>Principles of Chemistry<br>Honors Chemistry II |
| CEM 161 or<br>CEM 185H | | 1 Cr | | Chemistry Laboratory I<br>Honors Chemistry Laboratory I |
| CEM 162 or<br>CEM 186H | | 1 Cr | | Chemistry Laboratory II<br>Honors Chemistry Laboratory II |
| CEM 251 | | 3 Cr | | Organic Chemistry I |
| CEM 252 | | 3 Cr | | Organic Chemistry II |
| CEM 255 | | 2 Cr | | Organic Chemistry Laboratory |
| BS 161 | | 3 Cr | | Cells and Molecules |
| BS 171 | | 2 Cr | | Cell and Molecular Biology Laboratory |
| PHY 231 | | 3 Cr | | Introductory Physics I |
| PHY 251 | | 1 Cr | | Introductory Physics Laboratory I |
| PHY 232 | | 3 Cr | | Introductory Physics II |
| PHY 252 | | 1 Cr | | Introductory Physics Laboratory II |
| MMG 301 | | 3 Cr | | Introductory Microbiology |
| MMG 302 | | 1 Cr | | Introductory Microbiology Laboratory |
| BMB 401 or | | 4 Cr | | Comprehensive Biochemistry |
| BMB 461* and<br>BMB 462 | | 3 Cr<br>3 Cr | | Advanced Biochemistry I<br>Advanced Biochemistry II |
| PSL 431 | | 4 Cr | | Human Physiology I |
| PSL 432 | | 4 Cr | | Human Physiology II |

***Note**: BS 162 is a pre-requisite for BMB 461/462.* *Subtotal 44-48 credits*

**Complete *one* of the following courses:**

| | | | | |
|---|---|---|---|---|
| ANTR 350 | | 3 Cr | | Human Gross Anatomy & Structural Biology |
| CEM 262 | | 3 Cr | | Quantitative Analysis |
| MMG 409 | | 3 Cr | | Eukaryotic Cell Biology |
| PHM 350 | | 3 Cr | | Introductory Human Pharmacology |
| ZOL 341 | | 4 Cr | | Fundamental Genetics |
| ZOL 408 | | 4 Cr | | Histology |

***One* of the following courses:**

| | | | | |
|---|---|---|---|---|
| MTH 124 | | 3 Cr | | Survey of Calculus I |
| MTH 132 | | 3 Cr | | Calculus I |

**-AND-**

***One* of the following courses:**

| | | | | |
|---|---|---|---|---|
| MTH 126 | | 3 Cr | | Survey of Calculus II |
| MTH 133 | | 4 Cr | | Calculus II |
| STT 201 | | 4 Cr | | Statistical Methods w/Lab |
| STT 231 | | 3 Cr | | Statistics for Scientists |
| STT 421 | | 3 Cr | | Statistics I |

*Subtotal 6-7 credits*

Important: 120 semester credits is the minimum required for graduation, or 123 credits including MTH 1825.

## SAMPLE 4-YEAR SCHEDULE OF REQUIRED COURSES

First Year- Fall Semester

- WRA 110: Writing-Science and Tech. 4
- CEM 141: Introduction to Chemistry, or CEM 151, or CEM 181H 4
- CEM 161: Chemistry Lab, or CEM 185H 1
- MTH 132 Calculus I, or MTH 124 3

First Year- Spring Semester

- CEM 141:Descriptive Inorganic Chemistry, or CEM 152, or CEM 182H 3
- CEM 162: Chemistry Lab II, or CEM 186H 1
- BS 161: Cells and Molecules 3
- BS 171: Cell and Molecular Biology Laboratory 2
- ISS 2__ 4

Second Year-Fall Semester

- CEM 251 Organic Chemistry, or CEM 351 3
- MTH 133, or MTH 126, or STT 201, or STT 231, or STT 421 3-4
- PHY 231: Introductory Physics 3
- PHY 251: Introductory Physics Lab 1 1
- HNF 260: Principles of Human Nutrition 3

Second Year- Spring Semester

- CEM 252: Organic Chemistry, or CEM 352 3
- CEM 255: Organic Chemistry Lab 2
- PHY 232: Introductory Physics II 3
- PHY 252: Introductory Physics Lab II 1
- ANTR 350: Human Gross Anatomy & Structural Biology (or option) 3
- EC 201: Introduction Microeconomics (or EC 202) 3

Third Year-Fall Semester

- BMB 461: Advanced Biochemistry I 3
- PSL 431: Human Physiology I 4
- HNF 375: Community Nutrition 2
- FSC 211:Principles of Food Science 3
- IAH 201-210 4

Third Year-Spring Semester

- BMB 462: Advanced Biochem II, or BMB 401 for BMB 461/462 3-4
- PSL 432: Human Physiology II 4

- ISS 3__ 4

Fourth Year-Fall Semester
- HNF 461: Advanced Human Nutr: Carbohydrates, Lipids, and Proteins 3
- HNF 462: Advanced Human Nutr: Vitamins and Minerals 3
- FSC 455: Food and Nutrition Laboratory 3
- IAH 211+ 4

Fourth Year-Spring Semester
- HNF 464: Nutrition in the Prevention and Treatment of Disease 4
- MMG 301: Introductory Microbiology 3
- MMG 302: Introductory Microbiology Laboratory 1

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Students need at least 12 credits per semester for full-time student status. Students need to add elective credits to this sample schedule to attain at least 120 total credits for graduation.
**NUTRITIONAL SCIENCES students are required to maintain a minimum grade point average of 2.0 in the major required courses. The major required courses for Nutritional Sciences include all the HNF courses, MMG 301 and 302, BMB 401, or 461 and 462, PSL 431 and 432, and ANTR 350 or one of the other five courses within that category.**

**BMB 401 or 461/462, CEM 255, and PSL 431/432 courses must be completed BEFORE Fall of senior yr to be eligible to enroll in HNF 461/462.**

**Students in Lyman Briggs College are able to complete a Coordinate Major in Nutritional Sciences. See**

http://lymanbriggs.msu.edu/ **for additional information.**

## Health Promotion Specialization

The specialization in health promotion is designed to assist students in understanding health issues that will serve as a basis for personal and professional growth and positive lifestyle changes. The specialization, which is multidisciplinary, is administered by the Department of Kinesiology http://edweb6.educ.msu.edu/kin/ . With the approval of the department and college that administers the student's degree program, courses that are used to satisfy the requirements for the specialization may also be used to satisfy requirements for the bachelor's degree. Nutritional Sciences students, with prompt planning, are able to easily incorporate this specialization into their program of study.

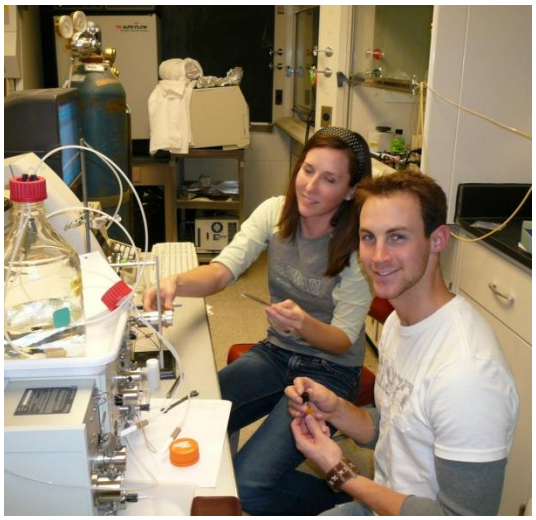
The student should contact the Kinesiology Advisor in the Department of Kinesiology the semester BEFORE GRADUATION and request certification for the completion of the specialization. After the certification is approved by the chairperson of the department and the Dean of the College of Education, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript. When you fill out your application to graduate, indicate "Health Promotion" in the box that asks about specializations.

**Bioethics, Humanities, and Society Specialization**

The Specialization in Bioethics, Humanities, and Society allows you to broaden your understanding of health and healing by drawing on several disciplinary perspectives—philosophy, history, literature, anthropology, and sociology, among others. The Specialization is not a major. Rather it supplements your academic major with an integrated series of upper-division courses. Several courses in the Specialization are directed toward improving your problem-solving abilities and augmenting your oral and written communication skills. More information is available at: http://bhs.msu.edu/index.php

## Honors College

Founded in 1956 with the charge to provide a distinctive educational experience for students of high ability, the Honors College coordinates the Universities efforts to offer Honors courses and programs. The hallmark of the Honors College is the freedom it bestows on members to choose and mold, a unique course of study. This privilege is supported by a strong advising system, which makes certain the freedom is wisely exercised and carefully monitored. Further information is available at www.msu.edu/unit/honcoll.html



# NUTRITIONAL SCIENCES MINOR

***Undergraduate Programs***
***Minor in Nutritional Sciences***

The Minor in Nutritional Sciences, which is administered by the Department of Food Science and Human Nutrition, will broaden students' understanding of the science of nutrition and the relationships between food and health.

The minor is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University other than the Bachelor of Sciences Degree in Nutritional Sciences or the Bachelor of Science Degree in Dietetics. With the approval of the department and college that administers the student's degree program, the courses that are used to satisfy the minor may also be used to satisfy the requirements for the bachelor's degree.

Students who plan to complete the requirements for the minor should contact the FSHN Career Center, 106 FSHN Bldg, phone 517-355-8474, ext 118 or 182

**MINOR in NUTRITIONAL SCIENCES**

**Complete one of the following courses (3 credits:**

| Course | | Prerequisites | Offerings |
|---|---|---|---|
| **HNF 150-3** | **Introduction to Human Nutrition** | **None** | **Fall, Spring, Summer** |
| **HNF 260-3** | **Principles of Human Nutrition** | **BS 111 or BS 149H or LB 145 or BMB 200 or PSL 250** | **Fall, Spring** |

**Complete all of the following courses (12 credits):**

| | | | |
|---|---|---|---|
| **HNF 375-2** | **Community Nutrition** | **HNF 150 or HNF 260** | **Fall and Summer** |
| **HNF 461-3** | **Advanced Human Nutrition: Carbohydrates, Lipids and Proteins** | **(BMB 200 or BMB 401 or BMB 461) and PSL 250 or PSL 310 or PSL 432)** | **Fall** |
| **HNF 462-3** | **Advanced Human Nutrition: Vitamins and Minerals** | **HNF 461 or concurrently** | **Fall** |
| **HNF 464-4** | **Nutrition in the Prevention and Treatment of Disease** | **(HNF 461 and HNF 462) and (BMB 401 or BMB 461)** | **Spring** |

## Possible Electives

The Nutritional Sciences program of study, as a pre-professional major, contains a considerable number of required courses. There are, however, opportunities for some elective courses. Listed below are several other elective courses to consider, especially if you have interest in medical school or graduate school in the life sciences. Of course, the list of possibilities is endless and really depends on your professional goals and personal interests.

| | |
|---|---|
| ANTR 485: Directed Study Human Prosect, Fall, Spring and Summer (ANTR 350) | 2-4 |
| COM 225: An Introduction to Interpersonal Communication, Fall, Spring and Summer | 3 |
| EPI 390: Disease in Society: Introduction to Epidemiology and Public Health, Spring | 4 |
| IM 400: Emergency Medicine Research 1, Fall, Spring and Summer | 1-4 |
| IM 401: Clinical Emergency Medicine Research 1, Fall and Spring | 4 |
| NSC 491: Job Search Strategies for Lab and Quantitative Scientists, Fall | 1 |
| OST 401: Selected Topics in Osteopathic Medicine, Fall and Spring | 1 |
| PHL 344: Ethical Issues in Health Care, Fall and Spring | 4 |

## Independent Study

HNF 490 Independent Study is open each semester to juniors and seniors interested in individual study of selected topics in nutrition. This course allows students to explore interests in a particular area outside of a normal classroom setting. The professor helps with the exploration by guiding and offering expertise to the student.

Meeting with your adviser is the first step in the process of establishing an independent study or practicum experience. Once you decide what area you would like to explore, your adviser can direct you to professors with expertise in a given area. Your interests, past experiences and courses completed will be considered when the independent study or practicum experience contract is made. Your expectations of the professor and the professor's expectation of you will be spelled out in the contract.

# Study Abroad

All students are encouraged to consider a Study Abroad Program. The summer between the junior and senior year is an ideal time for many students to participate in a Study Abroad without disrupting a 4 year Program of Study. It is also possible to consider a shorter term Study Abroad between Fall and Spring semesters or during Spring Break.

Nutritional Sciences majors have participated in a wide variety of Study Abroad Programs. You are encouraged to visit the Study Abroad website (http://studyabroad.msu.edu/) and to attend some of the informational sessions available each semester to learn more about options of interest to you.

Study Abroad Programs of interest to Nutritional Sciences students include:

- Ethics and History of Development and Health Care in Costa Rica
- Medical Ethics and History of Health Care in London
- International Food Laws in Asia/Europe

# Internship/Work Experiences/Teaching Assistant Program

Opportunities are available for internships. This provides an excellent mechanism to explore various career options. Advisers will work with students to place them in the food industry, in community education settings and in research laboratories, for example. Summers between the second and third years of college provide good opportunities for these internships. One search approach is to enter "Summer Undergraduate Research Fellowship" (SURF) into Google and you will find thousands of potential opportunities. Student MUST plan early to arrange an internship. It usually takes 3-6 months lead time to arrange off-campus activities.

**HNF 494 Practicum:** Students interested in University credit for an Internship in selected settings and organizations under faculty supervision may enroll in HNF 494 for variable credit (1-10 credits). HNF 494 is administered as a pass/no grade course.
Off campus internships have included the following experiences:

- Mid-Michigan Medical Center, Midland
- ThornApple Valley in Grand Rapids - Nutrient labeling calculations
- Amway in Grand Rapids - Food product research
- Costa Rica - Interactions with researchers and bean research project
- Wayne County Extension Service
- Michigan Department of Agriculture
- Kelloggs Company, Battle Creek
- Kraft Foods – Chicago
- University of North Carolina Hospitals
- I Can Community Center, Pontiac

Faculty in human nutrition often hire undergraduate students to work in their laboratories. Opportunities are available sporadically so again students must plan early and be somewhat flexible. SpartanTRAK at www.csp.msu.edu provides a listing of on campus part-time jobs.

An Undergraduate Departmental Aid Program in FSHN is available to provide opportunities for mature, accomplished undergraduate students to assist FSHN faculty in teaching a professional course. For example, students have assisted faculty with HNF 150, 260, 300, 320, 375, 453,461,462, and FSC 342. Students are emailed each Spring Semester an announcement/application to apply to this Program for the following academic year.

## Scholarships

Numerous scholarships are available to Nutritional Sciences students. Many of these scholarships are supported by endowments and private donations administered under the guidance of the FSHN Scholarship Committee. Students must apply using the appropriate scholarship application form. See http://www.msu.edu/unit/fshn/scholarships/scholar_apps.html for information on FSHN scholarships and to download the scholarship form. These applications are due in January of each year. These applications are also due in January of each year.
Nutritional Sciences students are encouraged to apply for scholarships.

# Student Activities

Listed below please find:

- Nutritional Sciences Club

- Other Student Organizations
- Volunteer Experience
- University Resources

## Nutritional Sciences Club

Students are encouraged to join and actively participate in the Nutritional Sciences Club. The goal of the Club is to enhance the professional and personal development of students majoring in Nutritional Sciences by presenting opportunities to:

*Interact with other Nutritional Sciences students;*
*Learn first-hand about student jobs, internships, and volunteer experience;*
*Speak with past Nutritional Sciences graduates;*
*Learn how to package your Nutritional Sciences experiences for jobs in industry and admission to graduate and professional schools;*
*Develop organizational and leadership skills.*

The Nutritional Sciences Club Officers for the 2013-2014 Academic Year are:

| **Position** | **Name** | **E-Mail** |
|---|---|---|
| President | Megan Geierman | geierma1@msu.edu |
| Vice President | Shaelie Harper | harpers6@msu.edu |
| Secretary | Bethany Coon | coonbet1@msu.edu |
| Financial Chair | Jessica Banfield | banfie14@msu.edu |
| Volunteer Chair | Mary Lian | hniangtl@msu.edu |
| Social Chair | Christina Leininger | leining7@msu.edu |

Dr Wei Li (236ATrout FSHN Bldg., phone 355-8474, Ext. 186, Email: wli@anr.msu.edu is faculty advisor for this Club.

An example of a previous meeting schedule for the Nutritional Sciences Club is:

**August**: Nutritional Sciences Club Orientation
**September**: Resume workshop
**October**: Carve pumpkins for nursing home
**November**: Canned food drive; Study abroad
**January**: Internships/Scholarships/meeting; Ice Cream Social
**February**: Graduate Student Speakers
**March**: Pharmaceutical sale representative
**April**: Elections meeting

Please contact one of the NSC Officers, or Dr. Li for further information.

## Other Student Organizations

The Pre-professional Society for Health Careers of Alpha Epsilon Delta is a student organization for all students interested in pursuing health care professions. Activities and programs include: medical school tours, social activities, instructions on the professional school application process, MCAT updates, and interview techniques. Meetings are announced in the Pre-professional Newsletter and posted in the pre-professional display at the entrance to the lobby of the Natural Science Building. This is an excellent opportunity for Nutritional Sciences students to interact with other premed students on campus. A useful website for premed students is: http://www.studentdoctor.net.

## Volunteer Experience

It is important for premed students to secure long-term, in-depth work or volunteer experience where responsibility is being taken for the welfare of others (e.g. working in a hospital or clinic, being a scout leader, a camp counselor, providing day care for an individual who is developmentally disabled, volunteering in geriatric programs, etc.). These experiences not only let the student know that he/she is pursuing the correct career path, but they also let medical/dental schools know that the student is very serious about becoming a health care provider. The Michigan State University Service Learning Center, 27 Student Services Building will assist preprofessional students in finding a volunteer experience at a hospital or clinic near campus, and the Student Employment Office, 110 Student Services Building, will assist you with health-related work experience.

**Children, Youth and Family Programs Internships-** MSU Extension Children, Youth and Family Programs (CYF) has challenging internship opportunities for students both on-campus and throughout Michigan's 83 county extension offices.

## University Resources

***Learning Resource Center (LRC)***
209J Bessey Hall
Phone: (517) 355-2363
Website: http://www.msu.edu/user/lrc

The LRC provides instructional facilities, staff, and materials for MSU students interested in improving thinking, reading, writing, listening, study, time management, and test-taking skills. Appointments are not necessary. All services and workshops are provided free of charge to Michigan State University students.

***Writing Center***
300 Bessey Hall
Phone: 517-432-3610
Email: grammar@msu.edu
Website: http://writing.msu.edu/

Experienced writing consultants talk one-on-one with writers of all levels of proficiency at all stages of a composition. Students receive assistance in brainstorming topics, organizing ideas, developing rough drafts, and fine-tuning their writing. For answer to a quick question, use the Grammar Usage Hotline at the same phone and Email address.

***Career Development Center (CDC)***
6 Student Services Building
Phone: 517-353-6474 Ext. 335
Website: http://www.csp.msu.edu/pages/misc/cdc/index.cfm

The CIC contains a comprehensive collection of books and files on thousands of career fields and 3,200 employers, as well as career employer directories, graduate and student information, audio-visual aids, and self-evaluation modules.

***MSU Career Development and Placement Services***
113 Student Services Building
Phone: 517-355-9510
Website: http://www.csp.msu.edu/

This office assists students who are activating a Placement File, preparing resumes, researching employers, and preparing for job interviews. Office staff assists teacher certification students in career planning and understanding market research.

***Service Learning Center***
26 Student Services Building
Phone: 517-353-4400
Website: http://www.csp.msu.edu/slc/

MSU students may receive placement assistance here for volunteer experiences and internships related to their majors. The office is open Monday-Friday, Noon-5:00 p.m.

***Counseling Center***

Main Office
207 Student Services Building
Phone: 517-355-8270

Branch Office
335 Olin Health Center
Phone: 517-355-2310

Website: http://www.couns.msu.edu/

Students should feel free to contact the Counseling Center for personal concerns and crises. Professional counseling and psychological services are offered to assist with both immediate personal and career concerns and long-range plans. All services are confidential. Initial consultations are free of charge; all services are free to currently enrolled students carrying 1 or more credits. A multitude of specialized groups and workshops are offered each semester, with varying topics, which usually include stress management and test anxiety. Handouts about these groups and workshops are available in 207 Student Services.

***The Testing Office***
207 Student Services Building
(Located inside the Counseling Center)
Phone: 517-355-8385
Website: http://www.couns.msu.edu/testing/

Scores on standardized tests for entry into medical school (Medical College Admission Test-MCAT), dental school (Dental Admission Test-DAT), graduate school (Graduate Records Examination-GRE), and other professional schools receive considerable attention in documenting your academic and scholastic abilities. Advance preparation for these examinations is highly encouraged. Students should consider purchase of one or more of the available books on preparation for these examinations during the sophomore year. Refer to these books as courses in biology, chemistry, and physics, for example, are taken. This will provide a guide of expectation of the professional school examinations.

Keep a complete set of notes and reference materials. Review materials from time-to-time during your academic program.

Registration materials for the LSAT, GRE, MCAT, and GMAT are available here, as well as foreign language placement tests.

***Office of Study Abroad***
109 International Center
Website: http://studyabroad.msu.edu/

This office can assist students who want to include an international study experience in their program of study.

## Nutritional Sciences Advising Center

Room 106 in the G.M. Trout FSHN Building is available for Nutritional Sciences students to use. A computer is available for student use. Nutritional Sciences program of study and handbooks are also available.

# Nutritional Sciences-A Ninety Five Year History at Michigan State University[1]

Although it would still be some years before a Nutritional Sciences major would be officially established for the undergraduate student, Hilda Faust (Division of Home Economics) had already made Foods/Nutrition research a reality in 1918 by investigating food chemistry and other problems. The work was extended in 1919 by the investigations of Osee Hughes, and in 1922, Assistant Professor Dr. Marie Dye organized Research and Graduate Study in Nutrition. The group received extensive support from Jean Krueger, Dean of Home Economics. Thus, when the Home Economics (Human Ecology) Building was erected and opened in 1924, there were three food laboratories on the first floor and three nutrition laboratories on the second floor(1). The first Masters degrees in Nutrition were granted in 1927. Dr. Margaret Ohlson, who came in 1929 as an Assistant Professor but soon advanced to Chairperson of the Department, was a stalwart advocate for Nutrition Research from 1934 to 1956.

By the time Michigan State University (MSU) reached its centennial year in 1955, the Foods and Nutrition Research undergraduate curriculum was well established. In the late 1950's, a new Honors College curriculum released credits for students to pursue independent study and laboratory work. Shortly thereafter, several undergraduates in the Honors College and in Nutrition Research opted to work in the nutrition laboratories under the direction of Dr. Dorothy Arata (1957 to 1967). Dr. Olaf Mickelsen joined the faculty in 1962, and several undergraduates worked under his direction. One of these students received a College Centennial Recognition Award in 1996. Likewise, when Dr. Rachel Schemmel joined the graduate faculty in 1967, several undergraduates worked under her direction, most of whom now have a medical degree or a Ph.D.

When the College of Home Economics became the College of Human Ecology in 1970, the name of the Department of Foods and Nutrition was changed to Human Nutrition and Foods, and later the same year, the Department of Human Nutrition and Foods was combined with the Department of Food Science in the College of Agriculture and Natural Resources to become the Department of Food Science and Human Nutrition. Shortly thereafter, the nutrition laboratories were moved to the Food Science Building (now called G. Malcolm Trout Food Science and Human Nutrition Building). Since Foods Research was an integral part of the Food Science curriculum and the Foods and Nutrition Research major now seemed to be obsolete, a committee consisting of Dr. Gilbert Leveille (Chairperson of the Department), Dr. Richard Nicholas (Food Science) and Dr. Rachel Schemmel (Nutrition) convened to develop the Nutritional Sciences undergraduate major. The new curriculum was designed to fulfill the needs of undergraduate students interested in a career in Nutrition Research as well as for undergraduates interested in pursuing a preprofessional degree. Dr. Maurice Bennink, a new Assistant Professor in 1973, became the first coordinator for the Nutritional Sciences major. Additional advisors included Drs. Wanda Chenoweth and Rachel Schemmel.

In the early 1980's, an evaluation of the Nutritional Sciences major was completed by Kristi Stoddart (graduate student) and Rachel Schemmel. A questionnaire was mailed to previous graduates, and ninety percent of the respondents indicated that the Nutritional Sciences major was an excellent preparation for medical school (2). In an informal publication (3) one of the students majoring in Nutritional Sciences indicated that, "the Nutritional Sciences major helped her to launch her career in Nutrition Research." Thomas Ziegler and Lorraine Leader (both currently physicians at Emory University) stated, "Medical School curricula have so many required courses that there is little time left to incorporate as much nutrition as is needed into the medical curriculum. Yet, nutrition is such an important component of positive good health." Prior to the University change from the quarter system to the semester system in the fall of 1992, a committee consisting of Maurice Bennink, Dale Romsos, Maija Zile and Rachel Schemmel, Chairperson, developed the new semester curriculum for the Nutritional Sciences major. A capstone research experience (HNF 480) was formally included within the major at that time although students had already informally conducted independent study and research with faculty members for more than 50 years. From 1993 to 2013 Dr. Dale Romsos was Coordinator of the Nutritional Sciences major. In Summer 2005, administration of the major officially moved from the College of

Human Ecology to the College of Natural Science, and students had the option of a LBC-Nutritional Sciences major. In Fall 2009 a Nutritional Sciences Minor was made available to students. In Fall 2011 the major moved from the College of Natural Science to the College of Agriculture and Natural Resources.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2. Stoddart K., Schemmel R.A., Bennink, M.R., Chenoweth W.L. and Leveille G.A. Medical Education in Nutrition--A premedical major in Nutritional Sciences as an approach. Ecol. of Food and Nutrition. 1984, 14:165.

3. Schemmel R. Should I major in Nutritional Sciences? FHA Hero. 1982, Jan./Feb., p. 1.


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