Pre-Professional Nutrition Option

Student Handbook

Department of Human Nutrition, Food and Animal Sciences
College of Tropical Agriculture and Human Resources
University of Hawai`i at Mānoa, Honolulu, Hawai`i

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CTAHR Academic Advisors
Gilmore Hall, First Floor
E-mail: ctahradv@hawaii.edu
Advising Appointments: https://ctahradv.youcanbook.me

Dr. Maria Stewart, Ph.D.
Associate Professor
Department of Human Nutrition, Food and Animal Sciences
Agricultural Sciences Building III (AGSCI)
1955 East West Road
Honolulu, HI 96822
Tel: (808) 956-9114
Fax: (808) 956-4024
E-mail: FSHNAdvise@ctahr.hawaii.edu
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</table>
Welcome

Welcome to the Pre-professional option in the Food Science and Human Nutrition Major (FSHN). We are a part of the Department of Human Nutrition, Food and Animal Sciences. This course of study allows students to prepare for post-baccalaureate study in nutrition and nutrition-related disciplines. With guidance from their advisor, students can design a course of study to prepare them for post-baccalaureate studies in health professional programs (medicine, dental, pharmacy, etc.) or a graduate degree program in nutrition or other biomedical science. This course of study does not meet all of the undergraduate academic requirements of the American Dietetic Association to apply for a dietetic internship.

University of Hawai‘i at Mānoa
College of Tropical Agriculture and Human Resources
Department of Human Nutrition, Food and Animal Sciences
Food Science and Human Nutrition Major
Pre-professional Dietetics Food Science Sports and Wellness

Note: Every effort has been made to ensure that the material in this handbook is accurate, up-to-date, and complete. However, errors and changes occasionally occur. It is always a good idea to double check with your advisor before taking any course, which is one of the reasons the department requires mandatory advising of all students. For those not yet in the program and would like to make sure they are on the right track please feel free to contact the CTAHR academic advisors (e-mail: ctahradv@hawaii.edu; schedule your appointment at ctahradv.youcanbook.me).

Admission into the University of Hawai‘i Pre-professional Program

Undergraduate students interested in the Pre-professional option may apply either as freshmen, upperclassmen, or as transfer students at any time of the year once admission requirements are met. Freshmen may declare at the time of application or within their first semester.

Students who want to transfer into the food science and human nutrition (FSHN) major are required to have (1) a minimum GPA of 3.0, (2) completed FSHN 185 with a grade of B (not B-) or better, and (3) completed the following courses with a grade of C (not C-) or better: MATH 140 (or higher), PHYL 141/141L, PHYL 142/142L, CHEM 161/161L, and CHEM 162/162L.

Students who have taken courses at another university or community college outside of the University of Hawai‘i system must arrange to have their official transcripts sent to the UH-Mānoa Admissions Office for evaluation of transfer credits. Courses not meeting the university core requirements, but are acceptable academically, will be transferred and counted as elective credits. Check the “Transfer Credit Database” created by the UH Admissions office to see how your courses transfer to UH, http://www.hawaii.edu/transferdatabase/.

Upon entering the program, students will be required to meet with academic advisors to identify their career objectives and select an appropriate option for study. Contact the CTAHR academic advisors at ctahradv@hawaii.edu or schedule an appointment at ctahradv.youcanbook.me.

Note to foreign transfer students: All course work acquired outside of the U.S. has to go through a reciprocity evaluation. You will need to send your transcripts (along with a fee) to have your course work evaluated. Two companies that can do this are: Credentials Evaluation Services, Inc. http://www.ierv.org/ and World Education Services, Inc. https://www.wes.org/.

All course requirements are as stated in the Pre-professional Option Student Handbook at the time you are accepted into the UH Pre-professional program.
Where are we located?

Agricultural Science Building
1955 East West Road, Room 216
Department of Human Nutrition, Food and Animal Sciences
Home of FSHN and ANSC majors
Required Courses for FSHN Pre-professional Option
Pre-professional option 2015-2016

I. Required FSHN Core Courses

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSHN 181/181L</td>
<td>Chemical Nature of Food/Lab</td>
<td>3/1</td>
<td>None</td>
</tr>
<tr>
<td>FSHN 185</td>
<td>The Science of Human Nutrition</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>FSHN 370</td>
<td>Nutrition Throughout the Lifespan</td>
<td>3</td>
<td>FSHN 185, C or better in CHEM 161/L, concurrently in PHYL 142/L</td>
</tr>
<tr>
<td>FSHN 389</td>
<td>Nutritional Assessment</td>
<td>2</td>
<td>FSHN 185, FSHN 370</td>
</tr>
<tr>
<td>FSHN 485</td>
<td>Nutritional Biochemistry I</td>
<td>3</td>
<td>PHYL 142/L and MBBE 402 or 375</td>
</tr>
<tr>
<td>FSHN 486</td>
<td>Nutritional Biochemistry II</td>
<td>3</td>
<td>FSHN 485</td>
</tr>
<tr>
<td>FSHN 492</td>
<td>Field Experience</td>
<td>4</td>
<td>Senior standing</td>
</tr>
</tbody>
</table>

In addition to all of the above courses, a minimum of 9 credits of ANY FSHN courses numbered 200 and above (200+) must also be taken.

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSHN 200+</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 200+</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 200+</td>
<td>3</td>
</tr>
</tbody>
</table>

II. Required UH Supporting Courses for Pre-professional

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 171/171L</td>
<td>Introduction to Biology I and Lab</td>
<td>3/1</td>
<td>None</td>
</tr>
<tr>
<td>CHEM 161/161L</td>
<td>General Chemistry I and Lab</td>
<td>3/1</td>
<td>C in CHEM 131 or placement exam</td>
</tr>
<tr>
<td>CHEM 162/162L</td>
<td>General Chemistry II and Lab</td>
<td>3/1</td>
<td>CHEM 161</td>
</tr>
<tr>
<td>CHEM 272</td>
<td>Organic Chemistry</td>
<td>3</td>
<td>CHEM 162</td>
</tr>
<tr>
<td>Any Course</td>
<td>Genetics or Molecular biology</td>
<td>3</td>
<td>See catalog</td>
</tr>
<tr>
<td>MICR 130/140L or FSHN 440</td>
<td>General Microbiology and Lab</td>
<td>3/2</td>
<td>None</td>
</tr>
<tr>
<td>MBBE 375</td>
<td>Multidisciplinary Biochemistry</td>
<td>3</td>
<td>FSHN 181/181L, BIOL 171/171L CHEM 272 or consent</td>
</tr>
<tr>
<td>or MBBE 402</td>
<td>Principles of Biochemistry</td>
<td>4</td>
<td>C (not C-) or better in BIOL 275/275L, CHEM 272 and CHEM 273 or consent</td>
</tr>
<tr>
<td>NREM 310</td>
<td>Stats in Ag &amp; Human Resources</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>PHYL 141/141L or PHYL 301/L</td>
<td>Human Anatomy &amp; Physiology/L</td>
<td>3/1</td>
<td>None</td>
</tr>
<tr>
<td>or PHYL 301/L</td>
<td>Human Anatomy &amp; Physiology/L</td>
<td>4/1</td>
<td>BIOL 171 &amp; BIOL 172, or any PHYL course; and CHEM 161 (or higher), or any BIOC course; or consent.</td>
</tr>
<tr>
<td>PHYL 142/142L or PHYL 302/L</td>
<td>Human Anatomy &amp; Physiology/L</td>
<td>3/1</td>
<td>PHYL 141/141L</td>
</tr>
<tr>
<td>or PHYL 301/L</td>
<td>Human Anatomy &amp; Physiology/L</td>
<td>4/1</td>
<td>PHYL 301/301L</td>
</tr>
<tr>
<td>COMG 151</td>
<td>Personal and Public Speech</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>or COMG 251</td>
<td>Prin'ples of Effective Public Spkg</td>
<td>3</td>
<td>None</td>
</tr>
</tbody>
</table>

Students must take enough credits of Electives to meet 120 credit minimum, with at least 45 credits at the 300 level or higher (usually 17-19 cr). Student must meet all General Education Core and Focus areas.
## Sample 4-year Plan
### Pre-professional Option 2015-2016

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td><strong>FSHN 185</strong> The Science of Human Nutrition 3</td>
</tr>
<tr>
<td>BIOL 171 (DB) Introduction to Biology I (DB) 3</td>
<td>FSHN 181 The Chemical Nature of Food 3</td>
</tr>
<tr>
<td>BIOL 171L (DY) Introduction to Biology I Lab (DY) 1</td>
<td>CHEM 162 General Chemistry II 3</td>
</tr>
<tr>
<td>CHEM 161 (DP) General Chemistry I (DP) 3</td>
<td>CHEM 162L General Chemistry Lab II 1</td>
</tr>
<tr>
<td>CHEM 161L General Chemistry I Lab (DY) 1</td>
<td>MATH 140 PreCalc or higher (FS) 3</td>
</tr>
<tr>
<td>ENG 100 College Composition (FW) 3</td>
<td>Total credits 14</td>
</tr>
<tr>
<td>FG (A/B/C) 3</td>
<td>Cumulative total 28</td>
</tr>
<tr>
<td><strong>Total credits</strong> 14</td>
<td><strong>Cumulative total</strong> 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th><strong>Total credits</strong> 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total credits</strong> 16</td>
<td><strong>Cumulative total</strong> 60</td>
</tr>
<tr>
<td><strong>Total credits</strong> 15</td>
<td><strong>Cumulative total</strong> 75</td>
</tr>
<tr>
<td><strong>Total credits</strong> 15</td>
<td><strong>Cumulative total</strong> 90</td>
</tr>
<tr>
<td><strong>Total credits</strong> 16</td>
<td><strong>Cumulative total</strong> 120</td>
</tr>
</tbody>
</table>

**Students must incorporate all focus requirements into this plan**

**Math/Science/Health-related electives are chosen with advisor approval**

**FSHN electives will be chosen from the courses listed on the preceding page, Prereq’s and Semester Course Offerings**

---

**Students must incorporate all focus requirements into this plan**

**Math/Science/Health-related electives are chosen with advisor approval**

**FSHN electives will be chosen from the courses listed on the preceding page, Prereq’s and Semester Course Offerings**
ANY 9 credits of the hollowed classes may be taken as FSHN elective

*Student MUST work in Gen. Ed. and Focus requirements not shown on this guideline
Approved UHM Foundations Courses – UHM Core Requirements

A complete course list is available online at http://www.catalog.hawaii.edu/corerequirements/index.html

Foundations Requirement: 12 credits
The Foundations requirements are intended to give students skills and perspectives that are fundamental to undertaking higher education. Students complete the Foundations requirements during their first year at UH Mānoa. Courses taken to fulfill the Foundations requirements may not be used to fulfill Diversification or Focus requirements.

Written Communication (FW): 3 credits
Written Communication courses introduce students to the rhetorical, conceptual, and stylistic demands of writing at the college level; courses give instruction in composing processes, search strategies, and composing from sources. Courses also provide students with experiences in the library and on the internet and enhance their skills in accessing and using various types of primary and secondary materials.

FW Courses

- ENG 100, 100A Composition I
- ENG 190 Composition for Transfer Students
- ELI 100 Expository Writing: A Guided Approach

Symbolic Reasoning (FS): 3 credits
Symbolic Reasoning courses expose students to the beauty and power of formal systems, as well as to their clarity and precision; courses do not focus solely on computational skills. Students learn the concept of proof as a chain of inferences. They learn to apply formal rules or algorithms, engage in hypothetical reasoning, and traverse a bridge between theory and practice. In addition, students develop the ability to use appropriate symbolic techniques in the context of problem solving and to present and critically evaluate evidence.

FS Courses

- MATH 140** Precalculus
- MATH 161 Precalculus and Elements of Calculus for Economics and the Social Sciences
- MATH 203** Calculus for Business and Social Sciences
- MATH 215** Applied Calculus I
- MATH 241** Calculus I
- MATH 251A** Accelerated Calculus I
- NREM 203 Applied Calculus for Management, Life Sciences, and Human Resources

* Has a prerequisite.
** Requires placement by Math Department's Precalculus Assessment; visit www.math.hawaii.edu.

Global and Multicultural Perspectives (FG): 2 courses, 6 credits
Global and Multicultural Perspectives courses provide thematic treatments of global processes and cross-cultural interactions from a variety of perspectives. Students will gain a sense of human development from prehistory to modern times through consideration of narratives and artifacts from diverse cultures. At least one component of each of these courses will involve the indigenous cultures of Hawai‘i, the Pacific, or Asia.

FG Courses
To satisfy this requirement, students must take a total of six credits; the six credits must come from two different groups.

Group A (FGA; courses cover the time period prehistory to 1500)

- ANTH 151, 151A Emerging Humanity
- ART 175 Survey of Global Art I
- HIST 151 World History to 1500
- HIST 161A World Cultures in Perspective
- WS 175 History of Gender, Sex, and Sexuality in Global Perspectives to 1500 CE

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**Group B** (FGB; courses cover the time period 1500 to modern times)

- AMST 150 America and the World
- ANTH 152, 152A Culture and Humanity
- ART 176 Survey of Global Art II
- FSHN 141 Culture and Cuisine: The Global Diversity of Food
- GEOG 102 World Regional Geography
- HAW 100 Language in Hawai‘i: A Microcosm of Global Language Issues
- HIST 152 World History since 1500
- HIST 162A World Cultures in Perspective
- LING 105 Language Endangerment, Globalization, and Indigenous Peoples
- TIM 102 Food and World Cultures
- WS 176 History of Gender, Sex and Sexuality in Global Perspective, 1500 CE to the Present

**Group C** (FGC; courses cover the time period prehistory to modern times)

- GEOG 151, 151A Geography and Contemporary Society
- LLL 150 Literature and Social Change
- MUS 107 Music in World Cultures
- REL 150, 150A Introduction to the World’s Major Religions

**For Non-UH System Transfer Students Only**

Students who transfer from a non-UH System school with one or more western civilization courses will be required to take only three credits of Global and Multicultural Perspectives. If the course or courses that they have taken are time-period specific, the credits that they take at UH Mānoa must cover a different time period.

**Diversification Requirement: 19 credits**

The Diversification requirements are intended to assure that every student has exposure to different domains of academic knowledge, while at the same time allowing flexibility in choice of courses for students with different goals and interests.

Students can complete the Diversification requirements over the full four years of their academic program. Students may satisfy the Diversification requirements by taking approved courses for which they meet course prerequisites. Some courses that satisfy Diversification requirements may also simultaneously satisfy Focus or major requirements.

**Can a single course satisfy more than one requirement?**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hawaiian/Second Language</th>
<th>Foundations</th>
<th>Diversification</th>
<th>Focus</th>
<th>Major</th>
<th>Minor/Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaiian/Second Language</td>
<td>---</td>
<td>no</td>
<td>no</td>
<td>YES</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Foundations</td>
<td>no</td>
<td>---</td>
<td>no</td>
<td>no</td>
<td>YES</td>
<td>no</td>
</tr>
<tr>
<td>Diversification</td>
<td>no</td>
<td>no</td>
<td>---</td>
<td>YES</td>
<td>YES</td>
<td>no</td>
</tr>
<tr>
<td>Focus</td>
<td>YES</td>
<td>no</td>
<td>YES</td>
<td>---</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Major</td>
<td>no</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>---</td>
<td>no</td>
</tr>
<tr>
<td>Minor/Certificate</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>YES</td>
<td>no</td>
<td>---</td>
</tr>
</tbody>
</table>
**Diversification (19 credits)**

**Arts, Humanities, and Literatures (DA, DH, DL): 6 credits**
To satisfy this requirement, students must take six credits; the six credits must include two of the three different areas: Arts “DA,” Humanities “DH,” and Literatures “DL.”

**Natural Sciences (DB, DP, DY): 7 credits**
To satisfy this requirement, students must take three credits in Biological Science “DB,” three credits in Physical Science “DP,” and one credit of Science Laboratory “DY.”

**Social Sciences (DS): 6 credits**
To satisfy this requirement, students must take a total of six credits from two different departments.

**Human Nutrition Required Courses**
- COMG 151 or COMG 251 (DA)
- HWST 107 (Recommended) (DH) (HAP)

The required science courses in the human nutrition curriculum will cover this requirement.

Any 2 DS courses from 2 different departments

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**UHM Graduation Requirements**

**Focus Requirements**
The Focus requirements identify important additional skills and knowledge necessary for living and working in diverse communities. Courses fulfilling Focus requirements are offered in departments across the curriculum and vary each semester. To meet a Focus requirement, a course must have official UH Mānoa Focus designation during the semester in which it is taken. Courses taken outside the UH System cannot be used to fulfill Focus requirements. Instead, non-UH System transfer students’ Focus requirements are adjusted according to the number of credit hours awarded by UH Mānoa for non-UH System courses.

<table>
<thead>
<tr>
<th>Focus (course requirement)</th>
<th>Pre-professional Recommended Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Ethical Issues (E): one course 300 level and above</td>
<td>BIOL 340 (E) or any E course</td>
</tr>
<tr>
<td>Hawaiian, Asian, &amp; Pacific Issues (H): one course</td>
<td>HWST 107 (DH) (HAP)</td>
</tr>
<tr>
<td>Oral Communication (OC): one course 300 level and above</td>
<td>FSHN 381 or 469</td>
</tr>
<tr>
<td>Writing Intensive (W): five courses, two courses 300 level and above</td>
<td>BIOL 171 Lab, FSHN 381, FSHN 389, FSHN 468, FSHN 492</td>
</tr>
</tbody>
</table>

**Notes:** Second Language (competence at the 202 level) Not required for FSHN students. Designation of Writing Intensive courses may change from year to year.

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**Taking Courses at University of Hawai‘i’s Community Colleges**

Many of the University of Hawai‘i’s Community Colleges offer a variety of courses required by the Pre-professional curriculum. In addition, parking is free! You may decide to attend a community college first; but, keep in mind that there are approximately two years of required upper division courses that are available only at UH Mānoa.

Go to [www.hawaii.edu/myuh/manoa](http://www.hawaii.edu/myuh/manoa) to access the on-line registration. Scroll down to “My UH Registration Information” and then to “My UH All-Campus Info Listing.” You will be able to register on-line at the different campuses. On-line advisors and registration information at each of these campuses are also given.

**Minors**

A minor can be added to the Pre-professional option. A minor course of study consists of a minimum of 15 credit hours of non-introductory course work (200-level courses that have a college-level course prerequisite and upper division courses) that is completed with a grade of C (not C-) or better. One of the following minors can be added to this program: biology, business administration, chemistry, language, microbiology, and zoology. Please note that by adding a minor this may add a minimum of one additional semester of coursework. Further information about minors can be found in the UHM catalog. Interested students should contact the department that houses the minor to confirm minor requirements.
To combine nutrition science with the fields of the Pre-professional option, students should plan to obtain specific certifications in addition to the academic degree in the Food Science and Human Nutrition Pre-professional Option. Certifications to consider include:

The Human Nutrition option can serve as a nutrition science-based pre-professional program that leads in many directions. Students planning to apply for specific professional programs such as medical school, pharmacy school, graduate study, etc. should plan ahead by structuring their elective classes to meet the professional requirements of their field of interest. It can be beneficial to obtain student memberships in professional organizations related to the student’s areas of interest.

**Certifications in Nutrition** (For Registered Dietitian, see the Dietetics Option Student Handbook.)

**Certified Nutrition Specialist (CNS)**
A CNS has an advanced degree (master's, doctoral, or professional level) in nutrition or closely allied subject and has additionally met the requirements of the American College of Nutrition (ACN). Requirements include a minimum of 1000 hours of professional experience and successful performance on a written examination covering the broad science of nutrition, ranging from basic aspects through clinical and research applications. CNS's are required to maintain their certification by earning continuing nutrition education (CNE) credits, generally through attendance at educational programs in nutrition.

Additional information can be found at: [http://www.cbns.org/](http://www.cbns.org/)

**Physician Nutrition Specialist**
A Physician Nutrition Specialist® (PNS) is a physician with training in nutrition who devotes a substantial career effort to nutrition and who can assume a leadership role in coordinating interdisciplinary clinical nutrition services and education in academic health centers, other medical centers, private practice, and other health care settings. PNSs generally have backgrounds in the specialties of internal medicine, pediatrics, family medicine, or general surgery, and sometimes in subspecialties such as adult or pediatric gastroenterology, endocrinology, critical care, nephrology, cardiology, or others. They have completed a period of defined nutrition training, in addition to categorical residency training, that includes mastery of a defined core of knowledge and completion of a period of mentored clinical nutrition experience, which may be obtained in a nutrition fellowship or as part of training in another subspecialty. They have satisfied all requirements of, and are certified by, the American Board of Physician Nutrition Specialists.

Additional information can be found at: [http://www.nutritioncare.org/nbpns/](http://www.nutritioncare.org/nbpns/)

**Career options**

**Professional Schools**

The Pre-professional Human Nutrition Option within the FSHN major allows students to meet professional school requirements while completing major requirements. Professional schools include Medical, Dental, and Pharmacy schools. Students interested in Physician Assistant programs can also meet admission criteria while completing FSHN major course work.

Students interested in applying to a professional school are encouraged to meet with a Pre-Health/Pre-Law Advising Center (PAC) representative to learn about professional school admission criteria and application process. They are located in the QLC building Room 101. The can be reached by phone at 808-956-4045. For more information about PAC visit their website at [http://manoa.hawaii.edu/pac/](http://manoa.hawaii.edu/pac/).
Graduate Education

Many students who select the Pre-professional Human Nutrition Option within the FSHN major can continue their education as Masters or Doctoral students in the biological sciences. More information about these programs can be found in this booklet and at the following websites:
MS- http://www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRms.html
PhD- http://www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRphd.html

Research

The Pre-professional Human Nutrition Option within the FSHN major provides students with the opportunity to conduct independent research projects by enrolling in FSHN 499 with a mentoring faculty member. Students who have undergraduate research experience may pursue careers after graduation in nutrition research as study staff or laboratory assistants.

Costs and Financial Assistance

A full time student resident for academic year 2015-2016 pays approximately $5,300/semester in tuition with an additional $500 for books and $800 for student fees. A full time non-resident student pays approximately $15,400/semester tuition with the same $500 book cost and $800 student fees. This does not take into account living or possible additional expenses such as a $5 fee to join the FSHN Student Council, $50 for student ADA membership, about $25 for attendance at the Hawai‘i Dietetic Association conference, about $30 in malpractice insurance and gas for the senior FSHN 492 Field Experience class and food class lab fees. Please see http://manoa.hawaii.edu/records/tuition_fees/tuition.html for the most updated tuition and fees.

The University and CTAHR offer some financial assistance. Please see CTAHR’s scholarship website here: http://www.ctahr.hawaii.edu/site/Scholarships.aspx

Nutrition and Food Science scholarships are also available; however, most are for Juniors or Seniors with a grade point average above 3.0. Check out the Department of Human Nutrition, Food and Animal Sciences scholarships website: http://www.ctahr.hawaii.edu/hnfas/scholarships.html

Master of Science (MS) in Nutritional Sciences

The MS in nutritional sciences prepares students to understand the scientific basis of nutrition, its application to health and fitness, and the skills needed to conduct basic and applied nutrition research. Subject areas of concentration include clinical nutrition, obesity, dietary fiber, functional fiber and bioactive food components, diet and cancer, mineral nutrition and toxicology, sports nutrition, nutrition education, nutritional product development, community and international nutrition, nutritional biochemistry, and nutritional epidemiology. Cooperating programs include public health, kinesiology and rehabilitation science, food science, animal sciences, physiology, the John A. Burns School of Medicine, and the Cancer Research Center of Hawai‘i.

Depending on the area of focus, students are prepared for diverse careers in nutrition and food-related industries, government agencies, and academic institutions. Graduates have found employment as college instructors; nutrition educators or consultants in the private sector; nutritionists in the food industry, fitness facilities, or health-related government agencies; and as research scientists in the health-care industry, private sector, government, or academic research institutions. Many have pursued PhD or other professional degrees at major universities around the country.

Admission Requirements

Academic prerequisites include a bachelor's degree in nutrition or a closely related field, a minimum grade point average of 3.0, and undergraduate course work in nutrition, physiology, biochemistry, and statistics. Motivated students without a nutrition related degree may apply, but will be expected to make up undergraduate course deficiencies if admitted into the program. Students are strongly encouraged to take introductory science courses prior to applying to
the program including at least two of the above mentioned prerequisites (one preferably being introductory nutrition). Additional requirements include submission of GRE General Test scores (no minimum score required), two confidential recommendations (using our program's recommendation forms), a TOEFL score of 580 minimum, 600 recommended (250 computer, 100 internet) if a foreign student; a personal resume; and a completed Graduate Admissions Application including statement of objectives. Interviews by phone (or in person if in Hawai'i) may be requested by the admissions committee. The deadlines for receipt of all application materials are February 1 for fall semester applicants, and September 1 for spring semester applicants.

Further information is available at [www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRms.html](http://www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRms.html)

**PhD in Nutrition**

In today's world, the relationship between diet and health is of great interest among consumers, medical professionals, research scientists, government policy makers, and private industries related to food, agriculture, and healthcare. To serve these clients and improve human health, especially in Hawai'i and the Asia-Pacific region, the PhD program in nutrition is designed to prepare future leaders and innovators who can expand our knowledge about food and health, solve nutrition-related problems, propose effective nutrition policies, guide new product and service development, and be ethical and effective researchers, communicators, and educators. To ensure that graduates are prepared for these roles, students will be expected to demonstrate:

1. Comprehensive understanding of core nutrition knowledge;
2. Advanced scholarship in a specialty area (i.e., expertise in at least one overlapping biomedical discipline e.g., biochemistry, physiology, cell and molecular biology, food science/functional foods, epidemiology, biostatistics, medicine, etc.);
3. Appropriate exposure to social and career-building disciplines (e.g., education, communications, information technology, technical writing, social sciences, etc.);
4. Ability to conduct original scholarly research, develop skills in research methodologies and grant writing, understand research ethics, and effectively disseminate research findings via peer-reviewed publications, seminars, and practical applications such as teaching.

To accomplish these goals, the PhD program integrates faculty and resources from the instructional and research programs housed in the College of Tropical Agriculture and Human Resources (CTAHR), the John A. Burns School of Medicine (JABSOM), and the University of Hawai'i Cancer Center to create an inter-college PhD program that will produce highly marketable, interdisciplinary graduates that can assume leadership roles in the field of nutrition.

**Admission Requirements**

The admission process is considered a critical step in insuring the success and quality of the program and its graduates; therefore, applicants will be carefully evaluated and selected. To insure consistent quality of training and financial support, the number of applicants admitted will be kept in line with the availability of high-quality dissertation advisors and available support. Students will not be admitted without a plan to support them and evidence of a faculty member's willingness to serve as a dissertation advisor.

Applicants should have a BS or MS degree in nutrition or a closely related biological science; however, highly motivated students with other degrees may be considered if they have excellent academic backgrounds and demonstrated strength in the biological sciences. Applicants are expected to demonstrate adequate preparation in nutrition, biochemistry, physiology, and statistics. If admitted without sufficient preparation in these areas, the prerequisites must be made up early in the student's program. The admissions committee will determine course deficiencies in an applicant's background.

Additional admission requirements include a minimum grade point average of 3.4 out of 4.0 for applicants with a BS, and 3.6 out of 4.0 for applicants with a MS or other advanced degree; submission of GRE general test scores that demonstrate performance above the 50% percentile in all areas; three letters of recommendation from individuals that can comment on academic and research potential, a personal resume, and a completed Graduate Admissions Application including a personal statement of objectives that includes reasons for wanting to attend graduate school, research interests, and career goals. Foreign applicants must obtain a minimum TOEFL score of 600 (paper), 250
Interviews (in person or by phone) are required of all applicants deemed admissible by the admissions committee. In selecting applicants for admission, particular attention will be paid to the quality and depth of the personal statement, the strength of the letters of recommendation (i.e., they must indicate exceptional potential), and the professional qualities and academic depth presented in the personal interview.

The deadline for receipt of all application materials are **February 1** for fall and **September 1** for spring applicants.

Further information is available at [www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRphd.html](http://www.ctahr.hawaii.edu/hnfas/degrees/grad/NUTRphd.html)

### Graduate Record Exam

Graduate Record Exam (GRE) scores are often required for graduate programs, especially for combined internship/graduate programs. The 4-hour general GRE test is administered at the University of Hawai‘i in the Queen Lili‘uokalani Center for Student Services. The tests are given weekly. The cost is currently $160. To prepare for taking the GRE you can either purchase GRE practice books and software from most bookstores and/or you can download a GRE practice test for free from [www.ets.org/gre](http://www.ets.org/gre). For further information or to set up an appointment call 956-3454.

Make sure to allow plenty of time for your chosen internship to receive your GRE scores. It takes up to 2-4 weeks for processing. Scores are valid for 5 years.

You can take the GRE up to five times a year. (It is good to have a score of over 1000 total for the verbal and math areas). Remember, **all** your past and current GRE test scores are sent to the designated site(s). You will be asked what sites you wish to have your scores sent. Four sites can be chosen free of charge. There will be a cost of $20.00 per site if you decide to have your scores sent later. **Since GRE information changes often it is best to refer to the web site:** [http://www.ets.org/gre](http://www.ets.org/gre)

### Useful WEB Sites for Students Entering into the University of Hawai‘i

**University of Hawai‘i** [http://www.hawaii.edu](http://www.hawaii.edu/)
All information for students including how to apply, academic calendar, financial aid, catalog, transfer credit search, on-campus activities, housing (dorms), parking, etc., can be found on the following websites:

**UH Mānoa General Catalog** [http://www.catalog.hawaii.edu/](http://www.catalog.hawaii.edu/)

**UH Academic Calendar** [http://www.hawaii.edu/academics/calendar](http://www.hawaii.edu/academics/calendar)

**My UH** [https://myuh.hawaii.edu](https://myuh.hawaii.edu)
A schedule of classes and class availability listings and online registration are available at MyUH.

**STAR** [http://www.star.hawaii.edu](http://www.star.hawaii.edu)
STAR for students is the online degree tracking system for UH. You can view your degree requirements, search for scholarships, and view your transcripts through STAR.

**College of Tropical Agriculture and Human Resources Academic Advisors** [https://ctahradv.youcanbook.me/](https://ctahradv.youcanbook.me/)
Use this website to make an appointment with our academic advisors. Advisors can assist you with developing a degree plan and making sure you’re taking the appropriate classes for graduation. Meeting with an academic advisor is mandatory every semester.

**College of Tropical Agriculture and Human Resources** [http://www.ctahr.hawaii.edu/site](http://www.ctahr.hawaii.edu/site)
This website offers information about the world of CTAHR, including undergraduate and graduate programs, financial aid and scholarships, course requirements, publications, research projects, student council, faculty, and staff.

This web site shows the different programs, courses, and resources available within the HNFAS department. The UH Pre-professional Student Handbook is located under the “Degree Programs, Food Science and Human Nutrition Program” link. There is also a link to “Scholarships.”

**Food Science Human Nutrition (FSHN) Council** [https://sites.google.com/a/hawaii.edu/uhm-fshn-council](https://sites.google.com/a/hawaii.edu/uhm-fshn-council)
The FSHN Council strives to nurture students' interest in dietetics, research, community wellness, food service and nutrition by providing the opportunity for students to network with other students, faculty, and professionals in food science, nutrition, and other health-related fields. In addition to enhancing fellowship and facilitating communication, student members are exposed to career information, scholarship opportunities, and community service activities.

**General Education** – UH Core requirements and class listings can be found at: [http://www.catalog.hawaii.edu/corerequirements/index.html](http://www.catalog.hawaii.edu/corerequirements/index.html)


This web site shows information on residency requirements and how your credits transfer into UH Mānoa. The UH catalog can also be viewed from this site.

**American Dietetics Association** [http://www.eatright.org](http://www.eatright.org)

This site is home for 70,000 nutrition professionals, mostly Registered Dietitians. It provides information about the American Dietetic Association, its journal, the dietetic registration process, dietetics education, member benefits, and professional resources such as the evidence-based library.

### Undergraduate FSHN (Council) Student Club

You are encouraged to join the Student FSHN Council for a nominal fee of $5.00/semester. You will have a chance to meet other students in your major and have the opportunity to share information and good times. Often graduating seniors leave behind jobs or career opportunities that are now available to you. Their website is: [https://sites.google.com/a/hawaii.edu/uhm-fshn-council/](https://sites.google.com/a/hawaii.edu/uhm-fshn-council/)

### Student Academic Support Services

Access to student academic support services is important to ensure your success while a student at the University of Hawai‘i. Below is a listing of some of these services that can also be found in the University of Hawai‘i catalog ([http://www.catalog.hawaii.edu/undergrad-ed/specialprograms.htm](http://www.catalog.hawaii.edu/undergrad-ed/specialprograms.htm)) along with appropriate contact information:

**First Year Programs** familiarize students with the array of resources, programs and faculty available at UH providing opportunities to develop personal relationships and enhancing active involvement in the educational process.

**International Student Services** provides assistance to international students who come from more than countries to study at UH. Students are advised and helped to adjust to the local and U.S. cultures.

**Kokua Program (Disability Access Services)** provides disability access services to students with documented physical and/or mental disabilities. Services include alternative media production, counseling, early registration, note-taking, sign language interpreting, technology access, testing accommodations and campus transportation.

**Learning Assistance Center** provides academic counseling and assists students in developing learning skills to increase academic success. Assessment, counseling and support services are also available for students with learning disabilities.

**Mānoa Advising Center** serves as a first point of contact for advising and appropriate referrals for incoming students.

**New Student Orientation Program** offers information sessions for first-time students and transfer students.

**Student Success Center** at Sinclair Library offers students a place to study and provides information and skills and a place for students to work with librarians, mentors, tutors and counselors to meet individual needs.
**Student Support Services** provides academic advising and planning, tutoring and mentoring to increase college retention, academic success and graduation rates.

**Writing Center** provide free services to equip students with appropriate writing skills so they can become better and more confident writers.

Do not hesitate to discuss your needs with your academic advisor who can help refer you to the appropriate resource. Together a “Plan of Action” can be determined and followed to ensure a better outcome. This plan would include measurable objectives, appropriate activities/actions to achieve the objectives and an assessment/evaluation component. An example might be:

**Objective:** Seek appropriate health and academic resources

**Action:** Referral to UH Student Health services, Writing Center and Kokua program for testing accommodations

**Assessment/evaluation:** Health improves and student has been getting excellent grades.

**Student Learning Outcomes**

Upon completion of the Bachelor of Science in FSHN Pre-professional option, students will be able to:

1. Know, apply and critically analyze and evaluate concepts related to the science of food and nutrition with a focus on humans.
2. Develop written & oral skills commensurate with the ability to summarize, evaluate, synthesize, and appropriately communicate scientific concepts to a variety of audiences.
3. Acquire personal characteristics and leadership, management, and human relations skills appropriate to professional practice in careers related to food science and human nutrition.
4. Recognizes and uses appropriate technologies, such as computer applications and/or food and nutrition laboratory methodologies.
5. Identifies and develops skills to gain successful admission into entry level careers or post-graduate education.
6. Develops problem-solving and critical thinking skills.
7. Demonstrates participation in community service.
8. Identifies community issues from local to global levels.