SPORTS AND WELLNESS NUTRITION OPTION

STUDENT HANDBOOK

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

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Welcome

Welcome to the Sports and Wellness 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 track prepares students for careers at health clubs, fitness centers, and spas, and couples course work in Exercise Science with Food Science and Human Nutrition course work. This option does not meet all of the undergraduate academic requirements of the American Dietetic Association to apply for a dietetic internship.

University of Hawaii at Manoa
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 & 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 advising coordinator.

Admission into the FSHN Sports and Wellness Option

Undergraduate students interested in Sports and Wellness 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 Hawaii system must arrange to have their official transcripts sent to the UH-Manoa 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 online to the “Transfer of Credits” website within the UH Admissions and Records office to see how your courses transfer to UH. http://www.hawaii.edu/odstc/

Upon entering the program, students will be assisted by academic advisors to identify their career objectives and select an appropriate option for study. Contact the Undergraduate Advising Coordinator, Dr. Maria Stewart, by email at FSHNAdvise@hawaii.edu or by phone at (808) 956-9114.

Note to foreign transfer students: Foreign students must have their transcripts evaluated by an outside credentialed agency. Check with the advising coordinator for an updated list of agencies who will provide this service.

All course requirements are as stated in the Sports and Wellness Option Student Handbook at the time you are accepted into the UH Sports and Wellness 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 Sports and Wellness Option

### Sports and Wellness option 2014-2015

### 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></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</td>
</tr>
<tr>
<td>FSHN 485</td>
<td>Nutritional Biochemistry I</td>
<td>3</td>
<td>FSHN 485, MBBE 402 or 375</td>
</tr>
<tr>
<td>FSHN 486</td>
<td>Nutritional Biochemistry II</td>
<td>3</td>
<td>PHYL 142/L</td>
</tr>
<tr>
<td>FSHN 492</td>
<td>Field Experience</td>
<td>4</td>
<td>Senior standing</td>
</tr>
</tbody>
</table>

*All of the following courses*

### Required UH Supporting Courses for Sports and Wellness

<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 (not C-) in CHEM 151 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>MICR 130/140L</td>
<td>General Microbiology and Lab</td>
<td>3/2</td>
<td>None</td>
</tr>
<tr>
<td>or FSHN 440</td>
<td>Food Safety</td>
<td>3</td>
<td>FSHN 181/181L, CHEM 151 or placement exam</td>
</tr>
<tr>
<td>MBBE 375</td>
<td>Multidisciplinary Biochemistry</td>
<td>3</td>
<td>CHEM 272 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</td>
<td>Human Anatomy &amp; Physiology/L.3/1</td>
<td>3/1</td>
<td>CHEM 151 and one of 103, BIOL 171 or ZOOL 101</td>
</tr>
<tr>
<td>or PHYL 301/L</td>
<td>Human Anatomy &amp; Physiology/L.4/1</td>
<td>4/2</td>
<td>None</td>
</tr>
<tr>
<td>PHYL 142/142L</td>
<td>Human Anatomy &amp; Physiology/L.3/1</td>
<td>3/1</td>
<td>PHYL 141/141L</td>
</tr>
<tr>
<td>or PHYL 302/L</td>
<td>Human Anatomy &amp; Physiology/L.4/1</td>
<td>4/2</td>
<td>PHYL 301/301L</td>
</tr>
<tr>
<td>FSHN 480</td>
<td>Nutrition in Exercise and Sport</td>
<td>3</td>
<td>PHYL 141/141L, FSHN 185</td>
</tr>
<tr>
<td>SP 151</td>
<td>Personal and Public Speech</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>or SP 251</td>
<td>Principles of Effective Public Spkg</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>KRS 353</td>
<td>Structural Kinesiology</td>
<td>3</td>
<td>PHYL 141/141L or concurrent</td>
</tr>
<tr>
<td>KRS 354/354L</td>
<td>Exercise and Sports Physiology</td>
<td>3/2</td>
<td>PHYL 142/142L or concurrent</td>
</tr>
</tbody>
</table>

### II. Required UH Supporting Courses for Sports and Wellness

*A minimum of 9 credits selected from the following FSHN courses*

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSHN 244</td>
<td>Comparative Nutrition</td>
<td>3</td>
<td>ANSC 200 (or concurrent), CHEM 161/L</td>
</tr>
<tr>
<td>FSHN 381</td>
<td>Experimental Foods</td>
<td>4</td>
<td>FSHN 181/L, CHEM 152</td>
</tr>
<tr>
<td>FSHN 451</td>
<td>Community Nutrition</td>
<td>3</td>
<td>FSHN 370, NREM 310</td>
</tr>
<tr>
<td>FSHN 452</td>
<td>Concepts in Nutrition Education</td>
<td>3</td>
<td>FSHN 451</td>
</tr>
<tr>
<td>FSHN 467</td>
<td>Medical Nutrition Therapy I</td>
<td>3</td>
<td>FSHN 486</td>
</tr>
<tr>
<td>FSHN 468</td>
<td>Medical Nutrition Therapy II</td>
<td>3</td>
<td>FSHN 467</td>
</tr>
<tr>
<td>FSHN 469</td>
<td>Nutrition Counseling</td>
<td>2</td>
<td>FSHN 467 or concurrent</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 8 cr). Student must meet all General Education Core and Focus areas.
## Sample 4-year Plan
### Sports and Wellness option 2012-2013

#### FALL

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 171 (DB)</td>
<td>Introduction to Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 171L (DY)</td>
<td>Introduction to Biology I Lab</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 161 (DP)</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 161L</td>
<td>General Chemistry I Lab</td>
<td>1</td>
</tr>
<tr>
<td>FW</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FG (A/B/C)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits**: 14  
**Cumulative total**: 14

#### SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSHN 185</td>
<td>The Science of Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 181</td>
<td>The Chemical Nature of Food</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 181L</td>
<td>Food Preparation Lab</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 162</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 162L</td>
<td>General Chemistry Lab II</td>
<td>1</td>
</tr>
<tr>
<td>MATH (FS)</td>
<td>PreCalc or higher</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits**: 14  
**Cumulative total**: 28

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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYL 141</td>
<td>Human Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PHYL 141L</td>
<td>Human Anatomy and Physiology Lab</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 272</td>
<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>E Focus</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SP 151</td>
<td>Personal and Public Speech (DA)</td>
<td>3</td>
</tr>
<tr>
<td>or SP 251</td>
<td>Principles of Effective Public Spkg (DA)</td>
<td>3</td>
</tr>
<tr>
<td>FG (A/B/C)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits**: 16  
**Cumulative total**: 44

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**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRS 353</td>
<td>Structural Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 485</td>
<td>Nutritional Biochemistry I</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 389</td>
<td>Nutritional Assessment</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>FSHN Elective</td>
<td>3</td>
</tr>
<tr>
<td>DS</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits**: 15  
**Cumulative total**: 75

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**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td>FSHN Elective (Upper Div)</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>(Upper Div)</td>
<td>2</td>
</tr>
<tr>
<td>MICR 130</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MICR 140L</td>
<td>Microbiology Lab</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Total credits**: 15  
**Cumulative total**: 104

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

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

*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 www.hawaii.edu/gened

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 Manoa. 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 http://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 Hawaii'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
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 Manoa 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></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 Manoa 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 Manoa for non-UH System courses.

<table>
<thead>
<tr>
<th>Focus (course requirement)</th>
<th>S&amp;W Recommended Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Ethical Issues (E): one course 300 level and above</td>
<td>KRS 395 (E)</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 Hawaii’s Community Colleges**
Many of the University of Hawaii’s Community Colleges offer a variety of courses required by the Sports and Wellness 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 Manoa.

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 Sport and Wellness 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.
Sports & Wellness Certifications

To combine nutrition science with the fields of sports and wellness, students should plan to obtain specific certifications in addition to the academic degree in the Food Science and Human Nutrition, Sports and Wellness Option. Certifications to consider include:

American College of Sports Medicine (ACSM)

ACSM is the largest sports medicine and exercise science organization in the world with more than 30,000 members. The mission of ACSM’s Committee on Certification and Registry Boards (CCRB) is to develop, provide, and market high quality, accessible, affordable credentials for health and exercise professionals who are responsible for preventive and rehabilitative programs that influence the health and well-being of all individuals. Certifications available from the ACSM include:

Health Fitness Certifications

1. The ACSM Certified Personal Trainer® is designed for a fitness professional involved in developing and implementing an individualized approach to exercise leadership in healthy populations and/or those individuals with medical clearance to exercise.

2. The ACSM Health Fitness Specialist® is designed primarily for leaders of preventive health programs in corporate, commercial, and community settings aimed at low- to moderate- risk individuals or persons with controlled diseases, such as hypertension, obesity, or asthma.

3. The ACSM Certified Group Exercise Instructor® is designed for those interested in developing and implementing various exercise plans in an individual or group setting.

Clinical Certifications

1. The ACSM Certified Clinical Exercise Specialist® certification is for professionals performing exercise testing and training clients with cardiovascular, pulmonary, or metabolic diseases. ACSM Exercise Specialists® are competent in graded exercise testing and exercise prescription, performing emergency procedures, and providing health and fitness counseling for patients in clinical settings.

2. The ACSM Registered Clinical Exercise Physiologist® provides exercise management for patients with a broad spectrum of chronic diseases or disabilities. This national registry for clinical exercise physiologists catalogues allied health professionals who work in the preventive or rehabilitative application of exercise and physical activity for populations where exercise has been shown to provide a therapeutic or functional benefit.

Specialty Certifications

1. The ACSM/ACS Certified Cancer Exercise Trainer® allows a professional to work in an area developing exercise programs for those clients affected by all facets of cancer from diagnosis to treatment.

2. The ACSM/NCPAD Certified Inclusive Fitness Trainer® assists healthy or medically-cleared individuals with physical, sensory, or cognitive disabilities by developing and implementing specific exercise programs.

3. The ACSM/NSPAPPH Physical Activity in Public Health Specialist® addresses public decision makers about the need for legislation, policies, and programs promoting physical activity in the public health system.

Additional information, including specific requirements for each of the previous certifications, can be found at http://www.acsm.org
National Academy of Sports Medicine

NASM offers both fitness certification programs and advanced specializations. These include:

1. The **NASM Certified Personal Trainer (NASM-CPT)** certification was developed according to the current knowledge, skill, and abilities that must be demonstrated by entry-level credential holders in order to safely and successfully practice. NASM-CPT certification requires a comprehensive knowledge of human movement science, functional anatomy, physiology, and kinesiology, as well as functional assessment and program design. Individuals wishing to become certified must be at least 18 years old, hold a current Emergency Cardiac Care (CPR) certification, and pass the certification exam.

2. The **Performance Enhancement Specialist (PES)** is designed for athletic trainers, chiropractors, physical therapists, coaches, and other sports professionals who want to work with players at all levels, from the secondary education and university tier, to professional and Olympic level athletes. Individuals applying for certification must have obtained the NASM-CPT certification and/or a bachelor’s degree in a health/fitness-related field and obtain a passing score on the PES exam.

3. **Corrective Exercise Specialist (CES)** provides the advanced knowledge, skills, and abilities to successfully work with clients suffering from musculoskeletal impairments, imbalances, or post-rehabilitation concerns. Individuals applying for certification must have obtained the NASM-CPT certification and/or a bachelor’s degree in a health/fitness-related field and obtain a passing score on the CES exam.

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

National Strength and Conditioning Association

1. **Certified Strength and Conditioning Specialists (CSCSs)** are professionals who apply scientific knowledge to train athletes for the primary goal of improving athletic performance. They conduct sport-specific testing sessions, design and implement safe and effective strength training and conditioning programs, provide guidance regarding nutrition and injury prevention, and refer athletes to other professionals when appropriate. Certification requires at least a bachelor’s degree and passing the CSCS examination. Current CPR and AED certifications are also required of all CSCS candidates and for maintenance of the CSCS certification.

2. **NSCA-Certified Personal Trainers (NSCA-CPT)** are health and fitness professionals who, by using an individualized approach, assess, motivate, educate, and train clients about their health and fitness needs. They design safe and effective exercise programs, provide guidance to help clients achieve their personal health and fitness goals, and respond appropriately in emergency situations. Recognizing their own area of expertise, personal trainers refer clients to other health care professionals when appropriate. Certification requires at least a high school diploma and passing the NSCA-CPT examination. Current CPR and AED certifications are also required of all NSCA-CPT candidates and for maintenance of the NSCA-CPT certification.

Additional information can be found at [http://www.nsca.com/Home/](http://www.nsca.com/Home/)

**Certifications Specifically in Sports & Wellness Nutrition**

International Society of Sports Nutrition

1. **Certified Sports Nutritionist from the International Society of Sports Nutrition (CISSN)** provides health/fitness/medical professionals who work with athletes or active individuals a certification that requires a fundamental understanding of the adaptive response to exercise and the role that nutrition plays in the acute and chronic responses to exercise. CISSNs must have either 1) a 4-year undergraduate degree in exercise science, kinesiology, physical education, nutrition, biology, or related biological science or 2) the CSCS (Certified Strength and Conditioning Specialist) credential from the National Strength and Conditioning Association. Additionally, they must pass the CISSN certification exam.
2. **Body Composition Certification by the ISSN (BCC-ISSN)** provides certification in the understanding of the strengths and weaknesses of various body composition assessment techniques and their practical application and proper use. The certification exam prerequisites include either 1) a Bachelor’s degree in Exercise Science, Nutrition, Biology, or related field or 2) the CISSN, CSCS (Certified Strength and Conditioning Specialist), or NSCA-CPT (Certified Personal Trainer) certification.

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

**International Olympic Committee (IOC) Diploma in Sports Nutrition**

1. **IOC Diploma in Sports Nutrition** is a two-year online distance-learning course of study that requires at least a bachelor’s degree in nutrition, dietetics, or related field of study. Student involvement is part-time (estimated at 20 hours/week). Delivery of the course will involve lectures in electronic format, web-based materials, paper-based reading, on-line “chat room,” and other Internet based activities and residential workshops. Each part of the program will consist of lectures in electronic format, supported by directed private study, and will include formal assessment elements. The Diploma course of study consists of two basic parts: Foundations of Sports Nutrition and Practical Sports Nutrition.

Additional information can be found at [http://www.sportsoracle.com](http://www.sportsoracle.com)

**American Dietetic Association**

1. **Certification as a Specialist in Sports Dietetics (CSSD)** is a Board certification by the Commission on Dietetic Registration (CDR) for registered dietitians (RDs) who have specialized education, training, and experience in sports dietetics. The CSSD designates specific knowledge, skills, and expertise for competency in sports dietetics practice. The specialty exam requires current RD status, maintenance of RD status for three years, and 1500 hours of experience in specialty practice. Currently, graduate education may substitute for up to 1200 hours of practice experience.

Additional information can be found at [http://www.scandpg.org/sports-nutrition/be-a-board-certified-sports-dietitian-cssd/](http://www.scandpg.org/sports-nutrition/be-a-board-certified-sports-dietitian-cssd/)

**Career options**

The Sports and Wellness Option in the FSHN program prepares students for a wide variety of possible career options. Students in this option can enhance their career opportunities by exploring the requirements for entry into professions of interest. In addition to specific university coursework requirements, various national certifications may be needed.

**Possible career options:**

Wellness/Health Educator – health education and health promotion with HMOs  
Corporate/Workplace Wellness Educator - some larger companies  
Strength & Conditioning Coach - High School or Collegiate level  
Group Exercise Instructor - muscle conditioning, kick-boxing, yoga, etc.  
Personal Trainer - health club or independent  
Specialty Instructor - cancer exercise specialist, adaptive fitness instructor for people with physical and/or cognitive disabilities.

**Costs and Financial Assistance**

The University offers some financial assistance. Nutrition scholarships are available; however, most are for Juniors or Seniors with a grade point average above 3.0. Scholarship information can be found either at the Department of Human Nutrition, Food and Animal Sciences website at [http://www.ctahr.hawaii.edu/hnfas/scholarships.html](http://www.ctahr.hawaii.edu/hnfas/scholarships.html) or at UHM’s Financial Aid website at [http://www.hawaii.edu/finaid/index.php](http://www.hawaii.edu/finaid/index.php).
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 bookstore 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 website: [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 Manoa 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 [http://www.hawaii.edu/myuh/manoa](http://www.hawaii.edu/myuh/manoa)
A schedule of classes and class availability listings, and online registration can be accessed through MyUH.

**Star site** where you can access your transcripts: [http://www.star.hawaii.edu:10012/studentinterface/login.jsp](http://www.star.hawaii.edu:10012/studentinterface/login.jsp)

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.

Department of Human Nutrition, Food & Animal Sciences (HNFAS) [http://www.ctahr.hawaii.edu/hnfas/](http://www.ctahr.hawaii.edu/hnfas/)
This web site shows the different programs, courses, and resources available within the HNFAS department.
The **UH Sports and Wellness Student Handbook** is located under the “Degree Programs, Food Science and Human Nutrition Program” link. There is also a link to “Scholarships.”

Food Science and 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.hawaii.edu/gened/](http://www.hawaii.edu/gened/)

This web site shows information on residency requirements and how your credits transfer into UH Manoa. 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/

Food Science and Human Nutrition Course Descriptions

For the Sports and Wellness option

(Some courses may be optional; see page 5 for details.)

FSHN 141 Culture and Cuisine: The Global Diversity of Food (3) A timeline of the world history of food and how it relates to culture, diversity, ethnicity, and religion. International food demonstrations and tastings included. FGB

FSHN 181 The Chemical Nature of Food (3) Lectures, discussions, and demonstrations on how food components contribute to the functional, sensory, and safety characteristics of foods, and what changes occur in foods due to preparation, processing, and storage.

FSHN 181L Food Preparation Lab (1) (1 3-hr Lab) Experiments in foods emphasizing ingredient function and standard preparation methods for food groups. Co-requisite: 181. DY

FSHN 185 The Science of Human Nutrition (3) Integration of natural science concepts basic to the study of human nutrition. Emphasis on nutrient requirements of healthy individuals, food sources, functions of nutrients. DB

FSHN 244 Comparative Nutrition (3) Digestive systems and nutrient functions, interrelationships and metabolism are compared among animal species, including humans. An intermediate, general nutrition course for Food Science and Human Nutrition and Animal Science majors. Pre: ANSC 200 (or concurrent), CHEM 161/L or higher. (Fall only) (Cross-listed as ANSC 244) NI DB

FSHN 370 Lifespan Nutrition (V) Nutritional requirements and food needs during infancy, early childhood and adolescence, and aging. One credit provided for each age group module. One to three credits. Pre: C or better in CHEM 161/161L, B or better in 185; or consent. Co-requisite: PHYL 142/142L, or consent. (Spring only) DB

FSHN 381 Experimental Foods (4) (3 Lec, 1 3-hr Lab) Experimental approach to study food preparation problems. Applying basic food science research design to conduct experiments, interpret data and write reports. Subject matter used to practice critical thinking and problem solving skills. Pre: 181, 181L, CHEM 152 or similar organic chemistry course, the equivalent of two years of high school algebra; or consent. DB

FSHN 389 Nutritional Assessment (2) Addresses concepts and uses of nutrition assessment tools at individual and community levels. Students will be introduced to national surveys and new, more sophisticated body composition measurements. A-F only. Pre: 185, 370 (or concurrent), or consent.

FSHN 440 Food Safety (3) Discussion of potential microbiological, parasitic, chemical, and natural food hazards; food laws and standards; and related aspects of consumer protection. Pre: 181, BIOL 171, and CHEM 272; or consent. (Alt. years: (Spring only)) DB

FSHN 451 Community Nutrition (3) (2 Lec, 1 3-hr Lab) Concepts and methods of nutrition program planning; analysis of nutritional problems of local, national, and international communities. Pre: 370 and either FAMR 380 or NREM 310; or consent.

FSHN 452 Concepts in Nutrition Education (3) (2 Lec, 1 2-hr Discussion) Concepts, methods, and materials used in nutrition education of community, clinical, and school populations. Strategies used to educate groups or individuals. Pre: 451 and consent.
FSHN 467 Medical Nutrition Therapy I (V) Development of dietary, anthropometric and clinical lab assessment skills measuring nutritional status. Understanding pathophysiology of disease processes, medical terminology and nutritional intervention, utilizing case studies. Pre: 486 or consent. DB

FSHN 468 Medical Nutrition Therapy II (3) Understanding of the pathophysiology of disease processes and nutritional intervention, using medical terminology and case studies. Pre: 467 or consent. DB

FSHN 469 Nutrition Counseling Skills (2) Theory and practice in nutritional counseling. Combined lecture and discussion on nutrition/dietary counseling. Knowledge and theories. Application through lab experiences including role playing, case presentations, and performing actual counseling sessions. A-F only. Pre: 467 (or concurrent) or consent.

FSHN 475 Human Nutrition for Health Professionals (3) Basic principles and practices; includes sources and functions of nutrients, nutritional needs and habits. Intended for students in pre-nursing and nursing, and graduate students in health professions. Pre: CHEM 151 (or higher) or BIOC 241 (or higher); PHYL 141 or ZOOL 141. DB

FSHN 480 Nutrition in Exercise and Sport (3) Effects of physiologic demands of exercise on nutrition. Emphasis on physiologic and biochemical basis for nutrition recommendations to enhance exercise participation and optimize athletic performance. Pre: 185 or consent. (Cross-listed as KRS 480) DB

FSHN 485 Nutritional Biochemistry I (3) Metabolism and biochemistry of carbohydrates, lipids, and proteins, including chemical structure, digestion, absorption, transport, cellular/molecular functions in human nutrition; integration of metabolic pathways; energy metabolism and balance, including relevance to chronic disease. Pre: PHYL 142/142L or PHYL 302/302L; BIOC 341 or higher or MBBE 375 or MBBE 402. DB

FSHN 486 Nutritional Biochemistry II (3) Metabolism and biochemistry of vitamins, minerals, and dietary fiber, including chemical structure, digestion, absorption, transport, and cellular/molecular functions in human nutrition; relevance to establishing nutrient requirements and to mechanisms of chronic disease. Pre: 485 or consent. DB

FSHN 488 Obesity, Science, and Issues (2) In-depth study of obesity, including research, etiology, treatment, and prevention. Pre: 480 and 486.

FSHN 492 Internship (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: senior standing in FSHN. (Cross-listed as ANSC 492)

FSHN 499 Directed Reading and Research (V) Appropriate for sophomore-senior students in FSHN. Students work closely with a faculty mentor as an undergraduate research assistant or teaching assistant. Scope of project is determined by the faculty advisor. Students should contact potential mentors at least 1 month before the semester starts to discuss registering for FSHN 499.

KRS 353 Structural Kinesiology (3) Gross human anatomy, emphasizing identification and description of parts of the musculoskeletal system; selected applications to motor activity. Primarily for physical education majors, but open to others with consent. A-F only. Pre: PHYL 141/141L or PHYL 301/301L (or concurrent). DB

KRS 354 Exercise and Sport Physiology (3) Emphasis on physiological responses to exercises and physical training as related to strength, muscular endurance, cardio-respiratory endurance. Primarily for KRS majors, but open to others with consent. A-F only. Pre: PHYL 142/142L or PHYL 302/302L (or concurrent); or consent. DB

KRS 354L Exercise and Sport Physiology Lab (2) Laboratory section to accompany KRS 354. Emphasis will be hands-on data collection and analysis of the physiological responses to exercise and physical training as related to muscular strength, power and endurance. A-F only. Pre: PHYL 142/142L or PHYL 302/302L (or concurrent); or consent. Co-requisite: 354.

**For General Education designations, please see page 8 of this handbook.
Student Learning Outcomes

Upon completion of the BS in FSHN Sports and Wellness 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. Recognize and use appropriate technologies, such as computer applications and/or food and nutrition laboratory methodologies.
5. Identify and develop skills to gain successful admission into entry level careers or post-graduate education.
6. Develop problem-solving and critical thinking skills.
7. Demonstrate participation in community service.
8. Identify community issues from local to global levels.