FOOD SCIENCE & HUMAN NUTRITION: FOOD SCIENCE, MS

for the Master of Science in Food Science and Human Nutrition: Food Science Concentration

On Campus:

Master of Science in Food Science and Human Nutrition, students are required to select a concentration:

- Clinical & Community Nutrition (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/clinical-community-nutrition/)
- Food Science (p. 1)
- Human Nutrition (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/human-nutrition/)

Online:

The focus of the online Master of Science in Food Science and Human Nutrition (https://fshn.illinois.edu/online/) is Food Science. Students are not required to select a concentration, an optional concentration is Clinical and Community Nutrition (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/clinical-community-nutrition/).

Research Areas

In addition to receiving training in the general field of food science or human nutrition, students have the opportunity to conduct research in the following areas of specialization:

For additional information go to fshn.illinois.edu/graduate (http://fshn.illinois.edu/graduate/).

The PSM involves rigorous scientific training in the area of food science and/or human nutrition; additionally, instruction is provided in applied business knowledge and skills. This program is designed for those who seek careers in a science-based setting with significant managerial and leadership responsibilities. For additional information go to psm.illinois.edu/prospectivestudents/programs/foodscience.htm (http://psm.illinois.edu/prospectivestudents/programs/foodscience.htm).

Admission

In addition to meeting the Graduate College admission requirements, a student planning to pursue a graduate degree in the department should have a baccalaureate degree in a recognized field of biological, physical, agricultural, or engineering science. Background deficiencies may be removed with graduate credit courses designed for this purpose. Graduate Record Examination (GRE) scores are required of all applicants, and those whose native language is not English are required to submit the results of the TOEFL or IELTS as evidence of English proficiency. Minimum TOEFL and IELTS scores (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/food-science/grad.illinois.edu/admissions/instructions/04c/). Students can be admitted to start in fall, spring, or summer semesters except for the PSM concentration, which admits fall semester only. For information on the role faculty (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/food-science/fshn.illinois.edu/graduate/applying/) have in the admissions process.

Internship in Dietetics

The Department of Food Science and Human Nutrition offers a dietetic internship for master's and doctoral students specializing in human nutrition. Completion of the degree and the internship qualifies the student to take the Academy of Nutrition and Dietetics registration examination administered by the Commission on Dietetic Registration. For information on our dietetic internship program please contact Ms. Jessica Madson (jamadson@illinois.edu).

Online Program

A non-thesis Master of Science in Food Science program is offered via live, synchronous online sessions using distance education technology. The program ensures the same degree of excellence, and courses are instructed by the same faculty, as the on-campus non-thesis program. Courses are typically offered in the evening. For requirements and additional information, please contact Dr. Dawn Bohn (dbrehart@illinois.edu).

Graduate Teaching Experience

Teaching is neither a Graduate College nor a FSHN requirement. A limited number of teaching assistantships are available to FSHN graduate students. Students are selected to be Graduate Teaching Assistants by the Department Head in consultation with the course instructor.

Financial Aid

Illinois PSM students may not hold assistantships or other tuition and fee waiving-generating appointments; statutory waivers and tuition scholarships are accepted. Financial aid for non-PSM graduate students is available in the form of fellowships, teaching and research assistantships, and tuition and partial fee waivers. Qualified candidates are considered for financial support upon application. Additional information on financial aid (http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/food-science/fshn.illinois.edu/graduate/financial-assistance/) for graduate students.

- Food processing, engineering, and biotechnology
- Food ingredients, properties, and interactions
- Food microstructures, micro-carriers, and nanotechnology
- Food chemistry
- Food microbiology and biomass conversion
- Food safety and security
- Sensory sciences
- Dietary quality and food and nutrition patterns for optimal health
- Nutrition and disease interactions, including cancer, metabolic disorders, and gastrointestinal health
- Nutrition across the life span
- Biochemical and molecular nutrition
- Clinical nutrition
- Community nutrition

for the Master of Science in Food Science and Human Nutrition: Food Science Concentration

Information listed in this catalog is current as of 09/2023
Undergraduate training must include statistics (ACE 261, CPSC 241, ECON 202, MATH 161, PSYC 235, SOC 280, or STAT 100), nutrition (equivalent to FSHN 220), and systemic physiology (equivalent to MCB 246). These undergraduate courses are not required for admission, but must be completed early in the graduate program and do not count toward concentration requirements.

Additional courses may be required beyond the concentration minimum, per Advisory Committee recommendations, depending upon student/advisor learning objectives. If you have already taken a required course at the University of Illinois, it is highly recommended that you do not retake it. If you have taken a very similar course at another university, you are strongly encouraged to petition for acceptance of that course in lieu of the required course. Courses should be selected to expand and strengthen your knowledge in core and related disciplines, and/or to increase your research capabilities. For additional advice on this topic, contact your advisor and faculty advisory committee.

Course selection is flexible beyond this list if decided in consultation with advisor/advisory committee.

For additional details and requirements refer to the department’s graduate handbook (http://fshn.illinois.edu/graduate/student-handbook/) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

This degree program can be completed with or without a thesis.

### Code | Title | Hours
---|---|---
**Required Concentration Hours** | 26-27
FSHN 481 | Food Processing Unit Operations I | 2
FSHN 483 | Food Processing Unit Operations II | 2
FSHN 514 | Advanced Food Chemistry | 3
FSHN 573 | Advanced Food Microbiology | 3
FSHN 593 | Seminar in Foods and Nutrition | 2
FSHN 595 | Advanced Topics in Food Science and Human Nutrition (Section: Nutrition for Food Scientists) | 4
FSHN 597 or NUTR 500 | Graduate Seminar | 0-1
Nutritional Sciences Seminar | 0-1

**Electives:**

**Food Processing and Engineering**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ABE 498</td>
<td>Special Topics (Section: Engineering Application of Nano-scale Biology)</td>
<td>1 to 4</td>
</tr>
<tr>
<td>FSHN 460</td>
<td>Food Processing Engineering</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 482</td>
<td>Food Processing Unit Operations I Lab</td>
<td>1</td>
</tr>
<tr>
<td>FSHN 484</td>
<td>Food Processing Unit Operations II Lab</td>
<td>1</td>
</tr>
<tr>
<td>FSHN 595</td>
<td>Advanced Topics in Food Science and Human Nutrition (Section: Advanced Food Processing)</td>
<td>1 to 4</td>
</tr>
</tbody>
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**Food Chemistry**

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>FSHN 416</td>
<td>Food Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 517</td>
<td>Fermented &amp;Distilled Beverages</td>
<td>2</td>
</tr>
<tr>
<td>FSHN 518</td>
<td>Chemistry of Lipids in Foods</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 519</td>
<td>Flavor Chemistry and Analysis</td>
<td>4</td>
</tr>
<tr>
<td>FSHN 595</td>
<td>Advanced Topics in Food Science and Human Nutrition (Section: Transport in Food Biopolymers)</td>
<td>1 to 4</td>
</tr>
<tr>
<td>FSHN 595</td>
<td>Advanced Topics in Food Science and Human Nutrition (Section: Water Relations in Foods)</td>
<td>1 to 4</td>
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**Food Microbiology**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>FSHN 574</td>
<td>Value Added Biotransformation</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 595</td>
<td>Advanced Topics in Food Science and Human Nutrition (Section: Food Safety for Global Food Security)</td>
<td>1 to 4</td>
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**Others (of interest to many)**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>FSHN 424</td>
<td>Biopsychology of Ingestive Behavior</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 440</td>
<td>Applied Statistical Methods I</td>
<td>4</td>
</tr>
<tr>
<td>FSHN 502</td>
<td>Advanced Sensory Science</td>
<td>3</td>
</tr>
<tr>
<td>FSHN 592</td>
<td>Graduate Internship Experience</td>
<td>2</td>
</tr>
<tr>
<td>FSHN 598</td>
<td>Advanced Special Problems</td>
<td>1-8</td>
</tr>
<tr>
<td>or NUTR 593</td>
<td>Individual Topics in Nutrition</td>
<td></td>
</tr>
<tr>
<td>CPSC 541</td>
<td>Regression Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CPSC 542</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>NUTR 550</td>
<td>Grantsmanship and Ethics</td>
<td>3</td>
</tr>
</tbody>
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1 Up to 2 hours for thesis degrees; up to 6 hour for non-thesis M.S. degree.

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### Code | Title                                      | Hours
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FSHN 416 | Food Chemistry Laboratory                   | 3
FSHN 460 | Food Processing Engineering                 | 3
FSHN 481 | Food Processing Unit Operations I           | 2
FSHN 482 | Food Processing Unit Operations I Lab       | 1
FSHN 483 | Food Processing Unit Operations II          | 2
FSHN 484 | Food Processing Unit Operations II Lab      | 1
FSHN 502 | Advanced Sensory Science                    | 3
FSHN 514 | Advanced Food Chemistry                     | 3
FSHN 517 | Fermented & Distilled Beverages             | 2
FSHN 518 | Chemistry of Lipids in Foods               | 3
FSHN 519 | Flavor Chemistry and Analysis               | 4
FSHN 573 | Advanced Food Microbiology                  | 3
FSHN 574 | Value Added Biotransformation               | 3
FSHN 592 | Graduate Internship Experience (Only 2 Internship credits can count toward degree requirements) | 0 to 12
FSHN 593 | Seminar in Foods and Nutrition              | 2
FSHN 595 | Advanced Topics in Food Science and Human Nutrition | 1 to 4

### Graduate Degree Programs in Food Science & Human Nutrition

**Graduate Majors:**

- Food Science & Human Nutrition, MS ([http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/](http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/))
  - concentrations:
    - Food Science (p. 1)
    - Human Nutrition ([http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/human-nutrition/](http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/human-nutrition/))
    - Food Science & Human Nutrition, MS - Professional Science Master's ([http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/professional-science-masters/](http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-ms/professional-science-masters/))
- Food Science & Human Nutrition, PhD ([http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-phd/](http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-phd/))
  - concentrations:
    - Food Science ([http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-phd/food-science/](http://catalog.illinois.edu/graduate/aces/food-science-human-nutrition-phd/food-science/))

**Joint Degree Program:**


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**Overview of Admissions & Requirements:**

- [https://fshn.illinois.edu/graduate/apply/](https://fshn.illinois.edu/graduate/apply/)
- [https://grad.illinois.edu/admissions/apply/](https://grad.illinois.edu/admissions/apply/)

**Department Website:** [https://fshn.illinois.edu/](https://fshn.illinois.edu/)

**Program Website:** [https://fshn.illinois.edu/graduate/program-overview/](https://fshn.illinois.edu/graduate/program-overview/)

**College Website:** [https://aces.illinois.edu/](https://aces.illinois.edu/)

**Address:** 260 Bevier Hall, 905 South Goodwin Avenue, Urbana, IL 61801

**Phone:** (217) 244-4498

**Email:** FSHNGradAdmissions@illinois.edu

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