

# MASTER OF SCIENCE IN FOOD PROCESS ENGINEERING

## Curriculum

Candidates are required to take a total of 32 credit hours, 18 of which are the required courses listed below, six to eight credit hours in research and thesis, six credit hours must be taken from Department of Chemical and Biological Engineering courses, and the remaining one to two credit hours can be taken from FdSN electives, if needed.

Code	Title	Credit Hours
<b>Core Courses</b>		<b>(18)</b>
FDSN 505	Food Microbiology	3
FDSN 506	Food Microbiology Laboratory	3
FDSN 521	Food Process Engineering	3
FDSN 522	Advanced Food Process Engineering	3
FDSN 524	Fundamentals of Food Science	3
FDSN 541	Principles of Food Packaging	3
<b>Thesis Research</b>		<b>(6-8)</b>
FDSN 591	Research and Thesis	6-8
<b>Elective Courses</b>		<b>(6)</b>
Select a minimum of two courses from the following:		6
CHE 426	Statistical Tools for Engineers	3
CHE 439	Numerical and Data Analysis	3
CHE 494	Process Design I	3
CHE 560	Statistical Quality and Process Control	3
CHE 577	Bioprocess Engineering	3
ENVE 513	Biotechnological Processes in Environmental Engineering	3
ENVE 542	Physicochemical Processes in Environmental Engineering	3
<b>FdSN Electives</b>		<b>(0-2)</b>
Select zero to two credit hours from the following:		0-2
FDSN 501	Advanced Nutritional Biochemistry	3
FDSN 502	Development, Delivery, and Dissemination	3
FDSN 504	Food Biotechnology	3
FDSN 507	Food Analysis	3
FDSN 508	Food Product Development	3
FDSN 511	Food Law and Regulations	3
FDSN 520	Low-Acid Canned Food Regulations and Microbiology <sup>1</sup>	3
FDSN 523	Food Engineering Process Delivery <sup>1</sup>	3
FDSN 526	Engineering Principles of Food <sup>1</sup>	3
FDSN 531	HACCP Planning and Implementation	3
FDSN 593	Seminars in Food Science and Nutrition	1
FDSN 594	Special Projects	1-6
FDSN 597	Special Problems	1-6

**Minimum degree credits required: 32**

<sup>1</sup> Courses are designed specifically for the Certificate in Food Processing Specialist program.

Research for the thesis must be carried out under the direct supervision of a participating faculty member. Based on the requirements of the research project, thesis committee members may be chosen from university faculty members from various departments, FdSN/FDA scientists, and the food industry scientists. The final thesis examination consists of submission of a written thesis, followed by an oral presentation open to all IFSH staff and the university community. A thesis may be completed outside the department only by special arrangement with the department chair. The final examination is normally oral, but may be written at the discretion of the thesis examining committee.

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As a part of the thesis, the student is expected to contribute to one or more high quality peer-reviewed journal article(s). The student is also encouraged to present the research at a national professional society meeting.

Students may enroll in a ChBE course that is not listed above, with FdSN adviser approval.