

**GRADUATE MAJOR CHANGE BULLETIN NO. 6\***

**Spring 2025**

Course information under the heading titled *Current* will show strikethroughs for deletions, and text under *Proposed* will show underlines for additions. The column to the far right indicates the date each change becomes effective.

**\*Note:** There was no Graduate Major Change Bulletin 5.

<b>Subject</b>	<b>Course Number</b>	<b>New Revise Drop</b>	<b>Current</b>	<b>Proposed</b>	<b>Effective Date</b>
<b>FMT</b>	<b>501</b>	<b>New</b>	<del>--N/A--</del>	<b>Conventional Food Processing Technologies 3</b> Common/ traditional, and novel unit operations used in the food industry to effectively and economically enhance product safety, shelf-life, variety, and nutrition.	<b>1-26</b>
<b>FMT</b>	<b>502</b>	<b>New</b>	<del>--N/A--</del>	<b>New Topics in Food Processing 3</b> Food safety overview including types of hazards, safety issues associated with different food categories, Codex, HACCP, novel decontamination technologies, engineering principles of bacterial adhesion and fouling, novel food contact materials, and biosensors.	<b>1-26</b>
<b>FMT</b>	<b>503</b>	<b>New</b>	<del>--N/A--</del>	<b>Food Packaging Technologies 3</b> Overview of food packaging including materials and their properties, manufacturing, aspects of design including shelf-life design and estimation, safety and legislative aspects, and the packaging requirements of food products.	<b>1-26</b>
<b>FMT</b>	<b>504</b>	<b>New</b>	<del>--N/A--</del>	<b>Advanced Food Preservation Technologies - Thermal 3</b> Basic principles in thermal preservations and their application to commercial and emerging technologies for high-moisture and low-moisture foods.	<b>1-26</b>
<b>FMT</b>	<b>505</b>	<b>New</b>	<del>--N/A--</del>	<b>Advanced Food Preservation Technologies - Nonthermal 3</b> Alternative, novel technologies to process foods where the main stress factor for inactivation of microorganisms and reduction of enzymatic activity is not thermal energy.	<b>1-26</b>
<b>FMT</b>	<b>506</b>	<b>New</b>	<del>--N/A--</del>	<b>Food Supply Chain Technologies and Management 3</b> Aspects of the food supply	<b>1-26</b>

				chain including production, harvesting, warehousing, processing, transportation, and retailing; technologies and management required to move food from where it is produced to where it is consumed.	
FMT	507	New	--N/A--	<b>Food Manufacturing Sustainability and Life Cycle Analyses 3</b> A sustainability overview including climate change and food security, environmental impact of current food systems, analysis and design for sustainability, technologies, practices, and economic and policy implications.	1-26
FMT	508	New	--N/A--	<b>Food Ingredients and Plant Protein Technologies 3</b> Interactions of food ingredients and their functions, especially with regard to qualities desired by consumers and the changing regulatory environment.	1-26
FMT	509	New	--N/A--	<b>Remote and Virtual Laboratories 3</b> Provides virtual modules and remote laboratory experiences to build both practical skills and conceptual knowledge, and to support student learning and retention of FMT concepts.	1-26
FS	<u>540</u>	Revise	<b>Food Laws 2</b> Become familiar with government statutes and regulations that contribute to a safe, nutritious, and wholesome food supply. Understand more about the law and the US legal system relevant to the regulation of the manufacture and sale of food and supplements, including jurisdictional issues, administrative law, and tort, contract, corporate, environmental, labor, and criminal law issues. Typically offered Fall, Spring, and Summer. Cooperative: Open to UI degree-seeking students.	<b>Food Laws 2</b> Become familiar with government statutes and regulations that contribute to a safe, nutritious, and wholesome food supply. Understand more about the law and the US legal system relevant to the regulation of the manufacture and sale of food and supplements, including jurisdictional issues, administrative law, and tort, contract, corporate, environmental, labor, and criminal law issues. (Formerly FS 516.) Credit not granted for both FS 440 and FS 540. Offered at 400 and 500 level. Typically offered Fall, Spring, and Summer. Cooperative: Open to UI degree-seeking students. <a href="https://uiowa.edu/academic/curriculum/FS-440/540-thuy.bernhard-2025-01-21-11-17-40">FS-440/540-thuy.bernhard-2025-01-21-11-17-40</a>	8-25
SAFP	501	New	--N/A--	<b>Biomass Conversion Technologies Relevant to SAF Production 3</b> Fundamental concepts of the chemistry and	1-26

				physicochemical properties of biomass, as well as approaches to existing biomass conversion technologies.	
<b>SAFP</b>	<b>502</b>	<b>New</b>	--N/A--	<b>Sustainable Aviation Fuel Technologies 3</b> Review of technologies and approaches for producing sustainable aviation fuels (SAF); development of skills and knowledge for selecting and evaluating sustainable aviation fuels technologies.	<b>1-26</b>
<b>SAFP</b>	<b>503</b>	<b>New</b>	--N/A--	<b>Renewable Electricity and Hydrogen 3</b> Fundamental principles of the current and emerging development of converting renewables to electricity technologies, production, and uses.	<b>1-26</b>
<b>SAFP</b>	<b>504</b>	<b>New</b>	--N/A--	<b>SAF Life Cycle Assessment 3</b> With an emphasis on the viability and environmental effects of sustainable aviation fuels (SAF), analysis of the fundamental ideas of life cycle assessment (LCA) and applied cases for the sustainable aviation fuel industry.	<b>1-26</b>
<b>SAFP</b>	<b>505</b>	<b>New</b>	--N/A--	<b>SAF: TEA, Financing, and Investment 3</b> Technoeconomic analysis (TEA) principles and their application in the context of the SAF industry.	<b>1-26</b>
<b>SAFP</b>	<b>506</b>	<b>New</b>	--N/A--	<b>SAF Law, Policies, and Regulations 3</b> United Nations sustainable development goals, authority differences for international and domestic aviation, role of the Carbon Offsetting Reduction Scheme for International Aviation (CORSIA) and regional or country-level policies incentivizing the use, production, or emission reductions of SAF.	<b>1-26</b>
<b>SAFP</b>	<b>507</b>	<b>New</b>	--N/A--	<b>Feedstock Assessment 3</b> Feedstocks that can be utilized in the production of SAF; aspects of biomass inventories, global biomass availability, energy crops, and the fundamentals and applications of crop modeling.	<b>1-26</b>
<b>SAFP</b>	<b>508</b>	<b>New</b>	--N/A--	<b>SAF System Dynamics 3</b> Principles and applications of system dynamics, focusing on SAF logistics systems; use of scientific method to build stock and flow models, manage parameters of interest, and analyze impacts of policies.	<b>1-26</b>

SAFP	509	New	--N/A--	<b>SAF Supply Chain Analysis and Optimization</b> 3 Analysis of Sustainable Aviation Fuel (SAF) supply chains, emphasizing the optimization of logistics, transportation economics, and biofuel supply chains.	1-26
SAFP	510	New	--N/A--	<b>SAF Fuel Analysis Certification and Standardization</b> 3 Fundamental principles of fuel science, detailed methods for fuel analysis and quantification, and the processes involved in certifying and standardizing SAF to meet industry requirements.	1-26
SAFP	511	New	--N/A--	<b>SAF Combustion and Emissions</b> 3 Fundamental principles of combustion, specific characteristics of SAF combustion in gas turbines, and the environmental impact of emissions.	1-26
SAFP	590	New	--N/A--	<b>Capstone Project</b> 3 Study of biomass availability and infrastructure in a region, including considerations policies, production pathways, and specific analytic tools.	1-26
SOC	570	New	--N/A--	<b>Social Autopsies: How Society Kills Us</b> 3 Theory and literature review; data analysis and interpretation of trends in population health and mortality disparities by social characteristics including age, gender, race/ethnicity, socioeconomic status, place of residence, social networks, and sociopolitical factors. Typically offered Odd Years - Spring.  <a href="https://wsu.instructure.com/courses/1815395">https://wsu.instructure.com/courses/1815395</a>	1-26