

# METROPOLITAN FOOD & ENVIRONMENTAL SYSTEMS, BS

for the degree of Bachelor of Science Major in Metropolitan Food & Environmental Systems

**department website:** <https://mfst.illinois.edu/>

**overview of college admissions & requirements:** <https://academics.aces.illinois.edu/prospective-students> (<https://academics.aces.illinois.edu/prospective-students/>)

**college website:** <https://aces.illinois.edu/>

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The Metropolitan Food & Environmental Systems (MFST) program uses an interdisciplinary approach to understanding and implementing solutions in the area of urban food and environmental systems to ensure the sustainability of readily available nutritious foods for metropolitan populations. The students in this major will learn to understand the science and practice of food production and security across urban environmental, economic, social, and health contexts, while maintaining environmental sustainability. Students in this program will be prepared for jobs in impact areas related to food systems, such as government, non-governmental organizations, institutional food buyers, investment firms, financial and insurance companies, industry, retail, and food service. Alternatively, students may choose to pursue post-baccalaureate education, including law school and graduate school in food systems or in specific areas of the food system. Because the MFST curricula includes required training in STEM education, critical thinking, scientific literacy, communication and leadership, students will obtain the skills necessary to traverse an ever-changing job market and have the freedom to choose from many career-life options.

A minimum of 127 credit hours are required for graduation, including General Education Requirements and the MFST Core Curriculum. Because the core curriculum includes many College of Agricultural, Consumer and Environmental Sciences (ACES) departmental course requirements, the students in MFST have the unique opportunity to minor in many of the ACES departments or to delve deeper into a food system area of interest in addition to the core courses, including (but not limited to) advanced nutrition, plant or animal production, food processing, food safety, environmental sustainability, climate change, or landscape architecture.

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## Prescribed Courses including Campus General Education

Code	Title	Hours
Composition I		4
RHET 105	Writing and Research	
Advanced Composition		3
LEAD 230	Leadership Communications	
Cultural Studies		9
LEAD 340	Leadership Ethics & Society: Addressing Contemporary Challenges (US Minority)	
ACE 251	The World Food Economy (Non-Western)	
or CPSC 116	The Global Food Production Web	
Western - select one course from campus approved list		
Humanities & the Arts		6
ETMA 311	Humanity in the Food Web	
Select one course from campus approved list		
Natural Science and Technology		8
CHEM 102 & CHEM 103	General Chemistry I and General Chemistry Lab I	
CHEM 104 & CHEM 105	General Chemistry II and General Chemistry Lab II	
Quantitative Reasoning I		3-5
Select one course from campus approved list		
Quantitative Reasoning II		3-4
CPSC 241	Intro to Applied Statistics	3
or STAT 100	Statistics	

Social & Behavioral Sciences		7
ACE 100	Introduction to Applied Microeconomics	4
ACE 255	Economics of Food and Environmental Justice	3
<b>ACES Prescribed</b>		
ACES 101	Contemporary Issues in ACES <sup>for freshman only</sup>	2

## Core Curriculum

Code	Title	Hours
<b>Required Introductory Courses</b>		<b>6</b>
ACES 102	Intro Sustainable Food Systems	3
MFST 101	Experiencing Food Systems	3
<b>Understanding Abiotic-Biotic Interactions Necessary for Food</b>		<b>14-15</b>
ANSC 100	Intro to Animal Sciences	4
CPSC 112	Introduction to Crop Sciences	3 or 4
or HORT 100	Introduction to Horticulture	
NRES 100	Fundamentals of Env Sci	3
NRES 201	Introductory Soils	4
<b>Human Nutrition</b>		
FSHN 120	Contemporary Nutrition	3
or FSHN 220	Principles of Nutrition	
<b>Economics I and II</b>		<b>7</b>
ACE 100	Introduction to Applied Microeconomics (fulfills SBS requirement)	4
ACE 255	Economics of Food and Environmental Justice (fulfills SBS requirement)	3
<b>Food Production I and II - Choose two from the following list:</b>		<b>5-8</b>
ANSC 301	Food Animal Production, Management, and Evaluation	
ANSC 309	Meat Production and Marketing (If you take ANSC 309, you must take a 4-hour upper-level course here or from another list)	
ANSC 400	Dairy Herd Management	
ANSC 401	Beef Production	
ANSC 402	Sheep and Goat Production	
ANSC 403	Pork Production	
ANSC 404	Poultry Science	
CPSC 418	Crop Growth and Management	
CPSC 437	Principles of Agroecology	
HORT 341	Greenhouse Mgmt and Production	
HORT 360	Vegetable Crop Production	
HORT 421	Horticultural Physiology	
HORT 435	Urban Food Production	
NRES 488	Soil Fertility and Fertilizers	
<b>Urban Planning I - Choose one from the following list:</b>		<b>3</b>
UP 101	Introduction to City Planning	
UP 116	Urban Informatics I	
UP 136	Urban Sustainability	
UP 203	Cities: Planning & Urban Life	
UP 204	Chicago: Planning & Urban Life	
UP 205	Ecology & Environmental Sustainability	
UP 260	Social Inequality and Planning	
<b>Urban Planning II - Choose one from the following list:</b>		<b>3-4</b>
UP 330	The Modern American City	
UP 340	Planning for Healthy Cities	
UP 345	Economic Development Planning	
UP 405	Watershed Ecology and Planning	
UP 406	Urban Ecology	

UP 473	Housing & Urban Policy	
UP 475	Real Estate Development Fundamentals	
<b>Policy I - Choose one from the following list:</b>		<b>3</b>
ACE 199	Undergraduate Open Seminar (Food Ag & Pol)	
ACE 291	Ag Policy & Leadership	
ACE 292	Farm, Food & Environmental Policy	
UP 211	Local Planning, Gov't and Law	
<b>Policy II - Choose one from the following list:</b>		<b>3-4</b>
ACE 306	Food Law	
ACE 403	Agricultural Law	
ACE 406	Environmental Law	
ACE 410	Energy Economics	
ACE 411	Environment and Development	
ACE 456	Agricultural and Food Policies	
NRES 424	US Environ, Justic & Policy	
UP 407	State and Local Public Finance	
<b>Technology I - Choose one from the following list:</b>		<b>2-4</b>
ABE 141	ABE Principles: Biological	
ABE 223	ABE Principles: Machine Syst	
ABE 224	ABE Principles: Soil & Water	
ABE 225	ABE Principles: Bioenvironment	
ABE 226	ABE Principles: Bioprocessing	
ANSC 110	Life With Animals and Biotech	
CPSC 212	Introduction to Plant Protection	
CPSC 261	Biotechnology in Agriculture	
CPSC 265	Genetic Engineering Lab	
CPSC 266	Data in Biology and Agriculture	
ETMA 232	Materials and Construction Sys	
ETMA 234	Wiring, Motors and Control Sys	
<b>Technology II - Choose one from the following list:</b>		<b>2-3</b>
ANSC 409	Meat Science	
CPSC 408	Integrated Pest Management	
CPSC 426	Weed Mgt in Agronomic Crops	
CPSC 428	Weed Science Practicum (If you take CPSC 428, you must take a 4-hour upper-level course from another list)	
CPSC 491	Ugrad Bioinformatics Seminar (Intro to R Programming - if you take CPSC 491, you must take a 4-hour upper-level course from another list)	
FSHN 460	Food Processing Engineering	
FSHN 465	Principles of Food Technology	
FSHN 469	Package Engineering	
ETMA 352	Land and Water Mgt Systems	
ETMA 371	Residential Housing Design	
ETMA 372	Environ Control & HVAC Systems	
ETMA 430	Project Management	
ETMA 435	Elec Computer Ctrl Sys	
ETMA 438	Renewable Energy Applications	
ETMA 465	Chemical Applications Systems	
ETMA 467	Precision Agric Technology	
ETMA 486	Grain Bioprocessing Coproducts	
<b>Advanced Scientific Literacy - Choose one from the following list:</b>		<b>3-4</b>
ACE 431	Agri-food Strategic Management	
ANSC 444	Applied Animal Genetics	

ANSC 448	Math Modeling in Life Sciences	
CPSC 440	Applied Statistical Methods I	
FSHN 428	Community Nutrition	
HDFS 420	Inequality, Public Policy, and U.S. Families	
HDFS 461	Family Life Education	
NRES 421	Quantitative Methods in NRES	
NRES 427	Modeling Natural Resources	
NRES 340	Environ Social Sci Res Meth	
UP 316	Urban Informatics II	
UP 418	GIS for Planners	
UP 443	Scenarios, Plans & Future Cities	
UP 457	Small Town/Rural Planning Workshop	
UP 478	Community Development Workshop	
<b>Social Ecology - Choose one from the following list:</b>		<b>3</b>
ACE 335	Food Marketing and Behavior	
HDFS 420	Inequality, Public Policy, and U.S. Families	
NRES 428	Valuing Nature	
<b>Social Impact in Practice - Choose one from the following list:</b>		<b>3-9</b>
LEAD 480	Collaborative Leadership	
HDFS 494	Applied Research Methods	
MFST 450	Social Impact Learning Experience (MFST 450 & MFST 397 can only equal a total of 12 hours)	
<b>Experiential Learning Series</b>		<b>7-16</b>
MFST 301	Experiential Learning Preparedness & Planning	1
MFST 397	Experiential Learning	3 to 9
MFST 401	Experiential Learning Review and Reflection	3
<b>Capstone</b>		<b>3</b>
MFST 498	Metropolitan Food & Environmental Systems Capstone	3
<b>Total hours</b>		<b>127</b>