Date Submitted: 03/05/26 3:39 pm

Viewing: BS-FSN-1 : Bachelor of Science Food Science and Nutrition

Last approved: 05/07/24 3:04 pm

Last edit: 03/05/26 3:39 pm

Changes proposed by: diel

Program Status	Active ~~Hiatus~~		
Requestor	Name Todd Diel		E-mail diel@iit.edu
Origination Date	2026-3-5 ~~2024-1-30~~		
Is this an interdisciplinary program?	No		
Is this stem-eligible?	Yes		
Available for direct application?	Yes		
Academic Unit	Food Science and Nutrition		
College	Lewis College of Science and Letters		
Program Title	Bachelor of Science Food Science and Nutrition		
Effective Academic Year	2026 ~~2024~~ - 2027 ~~2025~~	Effective Term	Fall 2026
Academic Level	Undergraduate		

In Workflow

1. FDSN Chair
2. Academic Affairs
3. Undergraduate Academic Affairs
4. LS Dean
5. Undergraduate Studies Committee Chair
6. Faculty Council Chair
7. Academic Affairs

Approval Path

1. 03/05/26 4:20 pm Britt Burton-Freeman (bburton): Approved for FDSN Chair

History

1. Jun 4, 2020 by Britt Burton-Freeman (bburton)
2. Jun 16, 2020 by Patty Johnson Winston (winston)
3. Jul 9, 2020 by Patty Johnson Winston (winston)
4. Jul 9, 2020 by Patty Johnson Winston (winston)
5. Jul 9, 2020 by Patty Johnson Winston (winston)
6. Jul 9, 2020 by Patty Johnson Winston (winston)
7. Jul 9, 2020 by Patty

Johnson Winston (winston)
8. Jul 13, 2020 by Patty Johnson Winston (winston)
9. Sep 17, 2020 by Patty Johnson Winston (winston)
10. Sep 17, 2020 by Patty Johnson Winston (winston)
11. Oct 23, 2020 by Holli Pryor-Harris (pryor)
12. May 7, 2024 by Todd Diel (diel)

If all courses in a subject in your department are required, please enter each subject followed by the number ranges in the "Quick Add" field in the pop up box when you click the green plus button below. For example: ARCH 100-499.

What courses will factor the major GPA?

Program Type Degree

Degree Type Bachelor of Science (BS)

CIP Code
01.1001 - Food Science.

Is there more than one Academic Unit proposer?

No

Program Code BS-FSN-1

Program Attribute

Total Program Credit Hours 120 ~~128~~

Rationale for change in program credit hours.

3/5/2026 Illinois Tech has struggled with graduating students due to inflated number of credit hours in order to graduate. With this revision, we are decreasing the number of credit hours required for the degree to 120, to assist students in graduating within 4 years. This is both

helpful for transfer students (as will be the norm for this program) who may need to take additional courses to meet the needs of Illinois tech's core curriculum and consistent with the requirements of peer institutions.

Please provide a summary and rationale for the requested program revision.

3/5/2026 Revision of program to reflect a new paradigm. This revision requires a student to transfer into the program with a AAS. It is specifically designed to combine with the AAS in Culinology and Food Science from College of DuPage (COD). Students earning the AAS from COD with a GPA of at least 3.0 will be accepted into the program and finish their BS in FSN with us. Other AAS programs will be evaluated to be added to this paradigm in the future.

Revised to add Program Code to new program.

10/23/2020 Updated program iteration code and effective CAT year/term for College Reorg. HPH

Program Narrative and Justification

Narrative description of how the institution determined the need for the program. For example, describe what need this program will address and how the institution became aware of that need. If the program is replacing a current program(s), identify the current program(s) that is being replaced by the new program(s) and provide details describing the benefits of the new program(s). If the program will be offered in connection with, or in response to, an initative by a governmental entity, provide details of that initiative.

3/5/2026

FDSN determined the need to revise the Bachelor of Science in Food Science and Nutrition (BS FSN) program based on enrollment patterns, regional workforce pathways, and opportunities to strengthen transfer pipelines from local community colleges. Historically, the BS FSN program at Illinois Tech experienced limited direct freshman enrollment. All students who completed the program entered as transfer students from other institutions or academic programs rather than beginning as first-year students. This pattern indicates that the strongest demand for the program occurs at the transfer level rather than among incoming freshmen.

To address this reality, the department proposes revising the BS FSN program to create a structured pathway specifically designed for students who have already completed an Associate of Applied Science (AAS) degree, particularly in culinary or culinology-related programs. Many community colleges in the Chicago region offer AAS programs that prepare students with strong applied food knowledge but limited access to advanced scientific training required for leadership roles in the food industry. The revised BS FSN program will allow these students to build on their technical culinary and food preparation background by completing upper-division coursework in food science, product development, food safety, and related scientific disciplines already offered by the department.

This need is particularly evident at regional partner institutions such as College of DuPage, which enrolls more than 50 students annually in its AAS in Culinology and Food Science program. Even modest transfer participation—approximately 10 percent of graduating students—would provide a sustainable enrollment pipeline for the revised BS program while expanding educational opportunities for community college graduates.

The revised structure also supports Illinois Tech's broader strategic objective of building transfer pathways from community colleges into advanced STEM education. By completing the BS FSN at Illinois Tech, students will be well positioned to continue into the university's Accelerated Master's Program (AMP), particularly the Master of Science in Food Safety and Technology (MS FST). These pathways are consistent with departmental efforts to create structured transitions from undergraduate programs into graduate study in food science and related disciplines.

Overall, the revised BS FSN program replaces the previous four-year freshman-entry model with a transfer-focused completion program that aligns with demonstrated student behavior, strengthens domestic enrollment pipelines, supports regional workforce development in the food industry, and leverages existing upper-division courses already offered by the department.

Original:

All major industries such as food, health care, defense, space, energy, government, transportation, are impacted by food, nutrition and health challenges. There is a great need for an educated workforce who can lead the transition in feeding more people health-promoting, safe food that is affordable with low environmental impact. This challenge goes beyond state lines and country borders. Most universities that offer an undergraduate program in Food Science and Nutrition do so from a historical perspective and service to their state as a land grant university. In this legacy, many of the traditional programs are dictated by the state's specialized needs, whereas Illinois Tech's program has unencumbered white space to boldly address local, national and world challenges centered on safe, sustainable diets that will require a reorganization of food systems and transformation of production and consumption patterns.

Our program is a unique offering designed with input from food and related industries that develops graduates who understand how the food industry functions currently, and who will be capable of propelling that industry to where it needs to be in the future. This graduate is prepared to step into a multitude of roles, from digitally-enabled food production, including the application of new and emerging food processing technologies, food safety and regulatory compliance, to applying novel techniques and ingredients in food product development and formulation testing, to design and business management, all while addressing global food economies and health issues. The program has an additional advantage of being the only degree of its kind offered within the City of Chicago.

Benefits

1) Provide an unprecedented interaction between university students and the Chicagoland food industry. Companies will have access to a dynamic candidate pool that they will have the opportunity to shape directly through interactive classrooms, hand-ons/project-based labs, and IPRO experiences.

2) Draw on the expertise and prestige of Illinois Tech's other departments, including computer science, design, engineering, architecture, business, law, psychology to create a truly distinctive and transformative experience that transcends traditional boundaries fueling discovery, creativity and solving important problems.

3) Grow the student body. A new and unique FDSN undergraduate program will add students to the existing undergraduate population attracting domestic and international students, of all ages.

4) An undergraduate program in FDSN will augment degree offerings in other disciplines through individual class experiences, minor degrees and certificates we offer giving students additional career tracks to pursue not previously planned.

4) Foster collaborative and integrative culture at Illinois Tech. Food and health touch every life on this campus whether casually or professionally. Social-cultural courses and events organized around food customs, traditional flavors, and functional ingredients can provide a completely new and engaging experience for students, staff and faculty bringing the Illinois Tech community closer together. Local and global issues of safely nourishing and hydrating 10 Billion in urban and rural centers without starving the planet is a topic every discipline at Illinois Tech could tackle.

5) Leverage Illinois Tech's unique relationship with the FDA and the food industry via the Institute for Food Safety and Health to give our graduates an educational experience that

cannot be had anywhere else in the world.

Narrative description of how the program was designed to meet local market needs, or for an online program, regional or national market needs. For example, indicate if Bureau of Labor Statistics data or State labor data systems information was used, and/or if State, regional, or local workforce agencies were consulted. Include how the course content, program length, academic level, admission requirements, and prerequisites were decided; including information received from potential employers about course content; and information regarding the target students and employers.

3/5/2026

The revised Bachelor of Science in Food Science and Nutrition (BS FSN) program is intentionally designed to meet local workforce and educational pipeline needs within the Chicago region's food industry. Chicago and the surrounding metropolitan area represent one of the largest food manufacturing and food innovation hubs in the United States, with strong demand for professionals trained in food product development, food safety, quality assurance, and applied food science. Employers in this sector often seek candidates who possess both practical food preparation knowledge and a strong scientific foundation.

The program structure was developed to address this need by creating a clear academic pathway for graduates of Associate of Applied Science (AAS) programs—particularly in culinology, culinary arts, and related food programs offered by local community colleges—to continue their education at Illinois Institute of Technology. Many of these AAS programs provide extensive applied training in culinary techniques and food production but offer limited exposure to the scientific and regulatory aspects of the food industry. The revised BS FSN program bridges this gap by allowing students to build upon their applied training through upper-division coursework in food science, product development, food safety, food chemistry, and related disciplines.

The Chicago region contains several community colleges with established culinary and culinology programs that graduate a significant number of students each year. For example, the College of DuPage AAS in Culinology and Food Science program enrolls more than 50 students annually. These students represent a strong potential transfer population of individuals who are already committed to careers in the food industry but who may require a bachelor's degree to advance into roles in research and development, product innovation, regulatory compliance, or food safety management.

By focusing on transfer students from local community colleges and aligning the curriculum with the needs of the regional food industry, the revised BS FSN program provides a practical and sustainable educational pathway that supports workforce development, expands opportunities for community college graduates, and strengthens Illinois Tech's role in preparing highly skilled food science professionals for the Chicago-area market.

Original:
Why Illinois Tech? 1. The unmet food industry needs that Illinois Tech can deliver on, 2. Chicago is a food mecca, 3. Illinois Tech has foundational expertise in FDSN, 4. FDSN faculty and staff

have strong relationships with the food industry, professional organizations, and government
5. Job opportunities for students available in the food and health sector out-number well-trained students to fill them.

In recent years, such pressures as operational flexibility, advanced automation, modernization, regulations, quality control and management, environmental issues, affordable food, innovation to meet the demands of a new generation have motivated the food processing industry to search for an interdisciplinary and technical workforce. Moreover, as new and more complex technologies are adopted and regulatory hurdles elevated, technical professionals with management skills and regulatory know-how are required. However, the traditional form of a food science and nutrition education is to provide employees to such industries that are stand-alone, that is, deeply equipped in a single area. Industry tells us they need well-rounded students with broad hands-on experiences that make them “ready-to-work” so that additional in-house, on-the-job training after the hiring would be minimal. The industry is also telling us that understanding and applying digital tools to plant operations, food formulation, flavor, recipe scaling, content creation, and delivery, understanding consumer behavior in food choice, mapping and predicting safety risks in plants, are all top skills they look for when building a workforce. Government leaders describe needs for students to have in-depth knowledge in respective science and engineering disciplines with application to the fields of food science and nutrition, and training in the latest technologies as they are applied in the food industry paired with critical thinking skills against a backdrop of food law and regulations. With this background, we are proposing an unparalleled undergraduate program that meets the needs of the food industry but provides the skills and training that can/will be cross applied and competitive for jobs in biotech, healthcare, government and more.
(Above source: Mahalik, Nitaigour & Choudhury, Gour & Yen, Matthew. (2008). Food Plant Operation and Management (FPOM): A Proposed New Program Option. American Society of Agricultural and Biological Engineers - Food Processing Automation Conference 2008. 10.13031/2013.24561 and interviews with large and small companies, including start-up incubators, professional organizations (IFT), and its members, FDA leaders, alumni).

The unique relationship of the FDSN department with the FDA, IFSH, the Institute for Translation Medicine (ITM) at University (U) of Chicago, and the Chicagoland food industry offers opportunities for Illinois Tech students not available at other Universities. The next closest Universities with programs in food science are U of Illinois, Champaign, IL, and U Wisconsin, Madison WI. None of these schools are located sufficiently close to Chicago to be as uniquely engaged with what is now emerging as the Silicon Valley of the Food Industry. In addition, major food and health professional organizations have their headquarters here in Chicago: Institute of Food Technologists (IFT), the Research Chefs Association (RCA), Academy of Nutrition and Dietetics (AND), American Medical Association (AMA). The IFT is the organization, which has direct links to the food industry talent pipeline via its 20,000-plus professional members. The IFT commands the academic guidelines for food science four-year programs. In a corresponding fashion, the RCA commands the guidelines for a rapidly emerging and industry desired academic field known as Culinology. As one might expect from the RCA’s own trademarked term “Culinology” it is the blending of food science with the culinary arts. With the growing consumer-driven trend of new food product innovation coming from the culinary executive chef and entrepreneur food start-ups, the food/nutrition scientist

from Illinois Tech will have the know-how and hands-on skillset to bridge fields in food product development, nutrition, processing technology, scale-up, and value-added food and beverage products.

Chicagoland's Food & Beverage Industry

Since the mid-19th century, the Chicago region has been a center for food production and distribution – the place where much of the Midwest's agricultural output came to be processed, packaged and distributed to the marketplace. Today, Chicagoland's Food and Beverage industry is the second largest in the nation, trailing only Los Angeles. (2) Chicagoland has over 4,500 food industry establishments offering employment opportunities for students in food science and nutrition disciplines. These being food and beverage manufacturing, packaging, distribution, and equipment.

With the introduction of the four-year Food Science and Nutrition, the department will be able to recruit students who want a pathway into professional food industry positions. We anticipate total enrollment in Food Science and Nutrition programs will steadily increase as a result of the four-year undergraduate FSN degree. This may also boost the FDSN graduate programs and result in higher visibility and healthy growth for the FDSN Department.

Narrative description of any wage analysis the institution may have performed, including any consideration of Bureau of Labor Statistics wage data related to the new program.

According to the Bureau of Labor Statistics, the Greater Chicago area has the highest salary level in the US at $92,900/year among Food Scientists and Technologists and ranks the highest in the US for total jobs.

The FDSN Department will work closely with the Career Management Center to provide the UG program details and highlight the potential companies and industry liaisons.

Below is a shortlist of food companies located in Chicago, which are considered hiring prospects for Food Science and Nutrition majors.

(Graphics available upon request.

Narrative description of how the program was reviewed or approved by, or developed in conjunction with, one or more of the following: a) business advisory committees; b) program integrity boards; c) public or private oversight or regulatory agencies (not including the state licensing/authorization agency and accrediting agency); and d) businesses that would likely employ graduates of the program. For example, describe the steps taken to develop the program, identify when and with whom discussions were held, provide relevant details of any proposals or correspondence generated, and/or describe any process used to evaluate the program.

3/5/2026 This revised program was develop in conjunction with faculty at the College of DuPage.

Original:

The program was developed with faculty, student, and food industry (all along the supply chain) involvement. In addition, we reached out to advisors from other Universities (Purdue, UC Davis (including Emeriti Food and Ag), Penn State, Wisconsin), as well as stakeholders in health care, growing industry, pharma, and FDA (colleagues here at IIT and in Washington DC). We also received comments from our colleagues in Biology, Chemistry, and ID.

Admission Entry Details

What are the enrollment estimates?

Year 1	5-10 ~~10-15~~	Year 2	10-20 ~~45-50~~	Year 3	20-30 ~~75~~

Attach Additional Program Justification Document(s): FDSN UG Proposal - January 28 2020_BBF_Feb5_2020.pdf

Academic Information

Advising

Since quality advising is a key component of good retention, graduation, and career placement, how will students be mentored? What student professional organizations will be formed? How will the department work with the Career Services office to develop industry connections?

As FDSN already manages MS, MAS, and PhD programs, existing advising procedures and strategies in the department will continue in this new degree program. Each student will have an academic faculty and staff advisor assigned in their first semester. Mandatory advising meetings will be enforced. Advising loads will be split among faculty. We will also institute a student mentoring program, where MS and PhD students will serve to help undergraduates navigate Illinois Tech, food industry interactions and experiences, and on-campus research activities. Additionally, student mentors will engage undergraduates in the Food Science Club, currently all graduate students. Competitive events will be organized and encouraged. The IFT annual meeting is hosted in Chicago each summer, which will bring students back to their alma mater yearly.

Program Resources

Which program resources are necessary to offer this program?

Personnel
Facilities

Describe the personnel requirements necessary to offer the program. Describe how and when resources will be made available to hire any additional personnel that are required.

3/5/2026

The department currently has 6 ~~8~~ tenure/tenure track faculty, 1 teaching faculty professor, and 2 full time staff, one of whom is ~~staff who are~~ also adjunct industry professors. We also have 2 ~~one teaching faculty form INTM who serves as an adjunct in our dept, one IFSH engineer who teaches as a lab class as needed, and 3~~ other adjunct faculty from outside Illinois Tech who contribute to our program. This revision will also draw on courses from other departments.

Original:
With new courses in development (n=15), this will greatly increase the teaching load of our current faculty. Each faculty member would be required to teach a minimum of 2 additional courses on top of their current teaching load. For our most research active faculty, this will be extremely difficult. Byouts will be required to hire adjunct faculty for faculty relief. As the program grows, faculty lines will be requested to broaden the scope of our department and help with instruction. Teaching assistantships will be required, especially for laboratory courses, which are labor intensive and require more one-on-one with students. Our MS and PhD programs will be ideal for teaching assistantship resourcing and augmenting faculty instruction.

Because of the multidisciplinary nature of food science and nutrition, the departmental course offerings for the FDSN degree rest firmly on prerequisite courses already found in math and sciences at Illinois Tech.

Our programs are strongest when we leverage the expertise across all of Illinois Tech. Emphasis has been given to provide coursework that bridges many different disciplines within the university. We believe this strengthens not only FDSN students, but the students from those disciplines who will have access to FDSN offerings in turn.

Describe the facilities requirements necessary to offer the program. Describe how and when resources will be made available to obtain any additional facilities that are required.

Based on anticipated enrollments, lecture facilities to accommodate in-class seating for 20-30 students per class session with adequate digital capabilities for audio-visual media presentations will be required. The following laboratory types for 20 students per lab class will be required:
1) Food Chemistry/ Food Analysis/ Food Properties Labs: Standard wet chemistry lab amenities - Wet chemistry certified lab benches, cabinets, sinks, eye wash stations, chemical storage, fume hood, refrigerator / freezers for food material storage, variety of analytical instrumentation, including HPLC, GC MS, spectrophotometers, pH meters, colorimeter, vortex, water baths, sonicators, Soxhlet and Kjeldahl apparatus', vacuum dryer, moisture dryer, distilled water system, lyophilizer, analytical scales, among other equipment.
Food Properties Lab that includes small equipment such as food colorimeter, refractive index unit, water activity, rheological analyzer, texture analyzer, pH meter, and more.
2) Bio- and clinical- chemistry laboratory: Standard wet biochemistry lab amenities, much of which is similar to wet chemistry needs, including certified lab benches, cabinets, sinks, eye wash stations, chemical storage, fume and biologics hoods, centrifuges, analytical scales, microscopes, votex machines, pipettes, water baths, etc. In addition, cell culture capability, electrophoresis, microplate washers and readers, freezers, refrigerators.
3) Food Innovation Kitchen and Lab: Laboratory space for students to have hands on development training working with food, understanding how food chemistry is leveraged to develop food products with specific requirements to meet consumer demands. The kitchen lab should be culinary grade kitchen space compliant with Illinois State Dept. Public Health code to allow for tasting and food consumption. Individual food handling/ cooking stations with instructor demonstration island is required. An applications lab like this will leverage the Food Properties lab to create real world experiences for students as they verify and document specifications requirements objectively, Refrigerators and freezers sized to support course load requirements. Wet mop sink, culinary grade flooring, ventilation for odor control, variety of kettles, cookers, mixers and smallwares. (See sample detail for Food Innovation Kitchen and Food Properties Lab)
4) Food Operations/ Unit Operations Pilot Plant: A food-grade pilot plant space sized to accommodate R&D scale unit operations sufficient to demonstrate and handle food materials at least in the following processes: thermal, non-thermal, freezing, dehydration, mixing, blending, pumping, conveying and packaging. The pilot plant should also support demonstrations of equipment and plant sanitation protocols. This type of pilot plant is located on the IIT Moffett Campus in Bedford Park, IL and requires students to travel for courses which use this facility.
5) Food Microbiology labs: A microbiology laboratory space for students to study microorganisms and their reaction to foods and their environments. The lab will need appropriate equipment for testing / detecting / tracking spoilage and pathogenicity, predicting microbial growth and death with computer models, understand genetic basis for pathogenicity and the reaction of microorganisms to new preservation methods, inhibitors, and stressors impacting survival. Homogenizers, dilution machines, dispensers, and labelers, microscopes, automated PCR machines for DNA amplification to identify of pathogens, centrifuges, hoods, incubators, along with basic items such as analytical scales, test tubes, petri dishes, pipettes, and spatulas are also used in food microbiology labs. Currently all food microbiology labs are

and spatulas are also used in food microbiology labs. Currently all food microbiology labs are held at the IIT Moffett campus as part of the IFSH laboratory space and requires students to travel for courses which use this facility.

Proposed Catalog Entry

Admission

Requirements

Illinois Tech's Bachelor of Science ~~degree~~ in Food Science and Nutrition (BS FSN) is a degree-completion program designed ~~prepares its graduates~~ for students who have completed an Associate ~~careers that involve the application~~ of Applied Science (AAS) degree in culinology, culinary arts, or a related food-focused field ~~science, technology, engineering~~ and wish ~~regulation~~ to advance their careers in the food industry. ~~address modern-day food- and health-related problems.~~ The program builds upon students' applied food preparation and production experience by providing advanced scientific training in food science, nutrition, and food safety. The curriculum emphasizes the application of science, technology, nutrition, and regulation to address modern food- and health-related challenges. Through upper-division coursework, students develop expertise in areas such as food product development, food chemistry, food safety, regulatory compliance, and applied nutrition. The ~~This unique~~ program also introduces students ~~provides a foundation in food science and nutrition with contemporary practical training in topics pertinent~~ to contemporary topics relevant to the food, manufacturing, pharmaceutical/biotechnology, and ~~pharma/biotech, and~~ agricultural sectors, ~~industries,~~ including operations management, data-informed decision-making, regulatory frameworks, and ~~computation and data analytics, regulatory, and~~ design thinking.

Designed ~~Our program, designed~~ with input from food industry professionals, the program prepares graduates to bridge ~~food industry and other related industries, develops professionals who understand how~~ the gap between culinary practice and food science innovation. ~~industry functions now, and will be capable of propelling that industry to where it needs to be in the future.~~ Students learn how to translate culinary concepts into scalable, safe, and commercially viable food products while understanding the scientific, regulatory, and operational environments in which modern food companies operate.

Graduates ~~from the program~~ are prepared for careers in areas such as food product development, research and development support, ~~to step into a multitude of roles, including digitally-enabled food production; application of new and emerging~~ food ~~processing technologies; food~~ safety and quality assurance, regulatory compliance, food manufacturing operations, ~~application of novel techniques~~ and applied ~~ingredients in~~ food innovation. ~~product development and formulation testing, address issues of sustainable diets, and intersections between business, health, human behavior, global food economies, and resources.~~ The program also provides a strong foundation for students who wish to continue their education through Illinois Tech's Accelerated Master's Program, especially the Master of Science in Food Safety and Technology.

Course Requirements

Food Science and Nutrition Requirements	**(32)**

FDSN 100	Introduction to the Profession	2
FDSN 201	Nutrition and Wellness	3
FDSN 300	Nutrition Through the Life Cycle	3
~~FDSN 304~~	~~Food Biotechnology~~	~~3~~
~~FDSN 310~~	~~Food Chemistry with Lab~~	~~3~~
FDSN 301	Exploring Food Science & Tech	3
~~FDSN 312~~	~~Food and Natural Products Toxicology~~	~~3~~
FDSN 311	Food Analysis and Properties	3
~~FDSN 320~~	~~Food Law, Labels, and Health Claims~~	~~3~~
FDSN 314	Sustainable Food Systems	3
~~FDSN 316~~	~~Cultural Foods with Lab~~	~~3~~
~~FDSN 318~~	~~Culinary Entrepreneurship~~	~~3~~
~~FDSN 413~~	~~Food Fermentation (w/lab and plant field trips)~~	~~3~~
~~FDSN 417~~	~~Management of Food Quality Control~~	~~3~~
~~FDSN 418~~	~~Introduction to Food Design~~	~~3~~
FDSN 401	Nutrition, Metabolism, and Health	3
FDSN 405	Food and Behavior	3
~~FDSN 410~~	~~Food Plant Operations~~	~~3~~
~~FDSN 411~~	~~Food Microbiology with Laboratory~~	~~4~~
FDSN 408	Food Product Development	3
FDSN 412	Preservation Processing	3
~~FDSN 420~~	~~US Food Safety Regulatory Systems~~	~~3~~
FDSN 414	Unit Operations in Food Processing	3
Mathematics Requirements		(3)
~~MATH 151~~	~~Calculus I~~	~~5~~
~~or MATH 152~~	~~Calculus II~~	
~~MATH 225~~	~~Course MATH 225 Not Found~~	~~3~~
~~or MATH 425~~	~~Statistical Methods~~	
STAT 225	Introductory Statistics	3
Science Requirements		(9)
BIOL 107	General Biology Lectures	3
BIOL 210	Microbiology	3

~~CHEM 124~~	~~Principles of Chemistry I with Laboratory~~	~~4~~
~~CHEM 125~~	~~Principles of Chemistry II with Laboratory~~	~~4~~
~~CHEM 237~~	~~Organic Chemistry I~~	~~4~~
~~PHYS 123~~	~~General Physics I: Mechanics~~	~~4~~
CHEM 122	Principles of Chemistry I	3
Computer Science Requirements		**(2)**
CS 105	Introduction to Computer Programming	2
or CS 110	Computing Principles	
Humanities and Social Sciences Requirements		**(21)**
See Illinois Tech Core Curriculum, sections B and C		21
Interprofessional Project (IPRO) Requirements		**(6)**
See Illinois Tech Core Curriculum, section E		6
~~Technical Elective Requirements~~		
~~Select 3-4 credit hours~~		~~3-4~~
~~BIOL 214~~	~~Genetics~~	~~3~~
~~or BIOL 430~~	~~Human Physiology~~	
~~BIOL 403~~	~~Biochemistry~~	~~4~~
~~or BIOL 404~~	~~Biochemistry Laboratory~~	
~~CHEM 239~~	~~Organic Chemistry II~~	~~3~~
~~or CHEM 247~~	~~Analytical Chemistry~~	
~~Free Electives~~		
~~Select 12 credit hours~~		~~12~~
Free Electives & Transfer Credits		**(47)**
~~Select 15 credit hours~~		~~15~~
~~FDSN 210~~	~~Introduction to Culinology~~	~~2~~
The credits from the AAS degree will by default transfer into the program as “Free Electives.” Up to 68 credits may be transferred this way. Certain courses from the AAS degree will likely meet some of the requirements from this program course list. In these cases, those credits will transfer from the AAS degree and substitute for the required class(es). If the electives from the AAS degree do NOT cover a program requirement, the student will need to take that course through Illinois Tech. If, after the substitution of transfer credits and completion of required courses, the completed credits are <120, the student will complete additional Free Electives to achieve the required 120 credits for graduation.		47
Total Credit Hours		120

Sample Curriculum/ Program Requirements

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
FDSN 100	2	BIOL 107	3
MATH 151	5	CHEM 125	4
CHEM 124	4	FDSN 201	3
CS 105	2	SOCIAL SCIENCES ELECTIVE	3
CHEM 122	3	HUMANITIES 200-LEVEL COURSE	3
FDSN 201	3	CS 105	2
BIOL 210	3	STAT 225	3
FDSN 300	3	FDSN 311	3
FDSN 301	3	FDSN 314	3
		IPRO 397	3
		FDSN 401	3
	17		17

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
CHEM 237	4	MATH 225	3
BIOL 210	3	FDSN 310	3
PHYS 123	4	FDSN 300	3
FDSN ELECTIVE	3	NON-FDSN ELECTIVE[1]	3
HUMANITIES OR SOCIAL SCIENCES ELECTIVE	3	HUMANITIES ELECTIVE (300+)	3
FDSN 412	3	FDSN 405	3
FDSN 414	3	FDSN 408	3
Humanities or Social Science Elective	3	IPRO 497	3
Humanities or Social Science Elective	3	Humanities or Social Science Elective	3
Humanities or Social Science Elective	3	Humanities or Social Science Elective	3
	15		15

Year 3

Semester 1	Credit Hours	Semester 2	Credit Hours
FDSN 304	3	FDSN 401	3
FDSN 311	3	FDSN ELECTIVE	3
FDSN 320	3	IPRO 397	3
CHEM/BIO TECHNICAL ELECTIVE	3	FDSN ELECTIVE	3
HUMANITIES ELECTIVE (300+)	3	NON-FDSN ELECTIVE[1]	3
NON-FDSN ELECTIVE[1]	3	SOCIAL SCIENCES ELECTIVE (300+)	3
	0		0

Year 4

Semester 1	Credit Hours	Semester 2	Credit Hours

IPRO 497	3	FDSN 412	3
FDSN 420	3	FDSN 411	4
FDSN ELECTIVE	3	FDSN ELECTIVE	3
FDSN 410	3	FDSN 430	3
SOCIAL SCIENCES ELECTIVE (300+)	3	NON-FDSN ELECTIVE[1]	3
	0		0

Total Credit Hours: 64

* This example assumes that BIOL 107 was covered by a transfer course from the AAS degree, and that 5 Humanities and/or Social Sciences courses were needed to meet the core curriculum requirements beyond what was transferred in from the AAS degree.

[1]Taken in consultation with Advisor

Specialization Requirements

Program Outcomes and Assessment Process

What are your learning objectives in this program? Please list each learning objective in the boxes below:

Note: These should be the same as described in your assessment plan at the bottom of this form.

Upload your assessment plan here:

Undergraduate Program Requirements

What courses will factor the major GPA?

FDSN 100 - Introduction to the Profession
FDSN 201 - Nutrition and Wellness
FDSN 300 - Nutrition Through the Life Cycle
FDSN 301 - Exploring Food Science & Tech
FDSN 311 - Food Analysis and Properties
FDSN 314 - Sustainable Food Systems
FDSN 401 - Nutrition, Metabolism, and Health
FDSN 405 - Food and Behavior
FDSN 408 - Food Product Development
FDSN 412 - Preservation Processing
FDSN 414 - Unit Operations in Food Processing

Undergraduate Degree Requirements

Minimum credit hours

120 ~~128~~

Specialization required?

No

Minor required?

No

Proposed General Curriculum

List Major Course Requirements

FDSN 100	Introduction to the Profession	2
FDSN 201	Nutrition and Wellness	3
FDSN 300	Nutrition Through the Life Cycle	3
FDSN 301	Exploring Food Science & Tech	3
FDSN 311	Food Analysis and Properties	3
FDSN 314	Sustainable Food Systems	3
FDSN 401	Nutrition, Metabolism, and Health	3
FDSN 405	Food and Behavior	3
FDSN 408	Food Product Development	3
FDSN 412	Preservation Processing	3

FDSN 414	Unit Operations in Food Processing	3
~~FDSN 100 Intro to the Profession~~		~~3~~
~~FDSN 310 FOOD CHEMISTRY~~	~~Course FDSN 310 FOOD CHEMISTRY Not Found (in development)~~	
~~FDSN 311 FOOD ANALYSIS AND PROPERTIES~~	~~Course FDSN 311 FOOD ANALYSIS AND PROPERTIES Not Found (in development)~~	~~3~~
~~FDSN 320 FOOD LAW, LABELS AND HEALTH CLAIMS~~	~~Course FDSN 320 FOOD LAW, LABELS AND HEALTH CLAIMS Not Found (in development)~~	~~3~~
~~FDSN 304 FOOD BIOTECHNOLOGY~~	~~Course FDSN 304 FOOD BIOTECHNOLOGY Not Found (in development)~~	~~3~~
~~FDSN 410 FOOD PLANT OPERATIONS~~	~~Course FDSN 410 FOOD PLANT OPERATIONS Not Found (in development)~~	~~3~~
~~FDSN 412 PRESERVATION PROCESSING~~	~~Course FDSN 412 PRESERVATION PROCESSING Not Found (in development)~~	~~3~~
~~FDSN 420 US FOOD SAFETY REGULATORY SYSTEMS~~	~~Course FDSN 420 US FOOD SAFETY REGULATORY SYSTEMS Not Found (in development)~~	~~3~~
~~FDSN 430 CAPSTONE~~	~~Course FDSN 430 CAPSTONE Not Found (students choose 1 of 2 focus areas)~~	~~3~~
~~FDSN 411 FOOD MICROBIOLOGY WITH LAB~~	~~Course FDSN 411 FOOD MICROBIOLOGY WITH LAB Not Found (in development)~~	~~3~~
~~All these courses have been submitted for approval~~		
~~FDSN 301~~	~~Exploring Food Science & Tech~~	~~3~~
~~FDSN 210 INTRO TO CULINOLOGY~~	~~Course FDSN 210 INTRO TO CULINOLOGY Not Found~~	~~3~~
~~FDSN 312 FOOD AND NATURAL PRODUCTS TOXICOLOGY~~	~~Course FDSN 312 FOOD AND NATURAL PRODUCTS TOXICOLOGY Not Found~~	~~3~~
~~FDSN 314 SUSTAINABLE FOOD SYSTEMS~~	~~Course FDSN 314 SUSTAINABLE FOOD SYSTEMS Not Found~~	~~3~~
~~FDSN CULTURAL FOODS WITH LAB~~	~~Course FDSN CULTURAL FOODS WITH LAB Not Found~~	~~3~~
~~FDSN 318 CULINARY ENTREPRENEURSHIP~~	~~Course FDSN 318 CULINARY ENTREPRENEURSHIP Not Found~~	~~3~~
~~FDSN 413 FOOD FERMENTATION~~	~~Course FDSN 413 FOOD FERMENTATION Not Found~~	~~3~~
~~FDSN 417 MANAGEMENT OF FOOD QUALITY CONTROL~~	~~Course FDSN 417 MANAGEMENT OF FOOD QUALITY CONTROL Not Found~~	~~3~~

FDSN 418 INTRO TO FOOD DESIGN	Course FDSN 418 INTRO TO FOOD DESIGN Not Found	3
Program Electives (15 credit h required)		
List Mathematics Requirements		
MATH 151	Calculus I	5
or MATH 152	Calculus II	
MATH 225	Course MATH 225 Not Found	3
or MATH 425	Statistical Methods	
STAT 225	Introductory Statistics	3
List Science Requirements		
BIOL 107	General Biology Lectures	3
BIOL 210	Microbiology	3
CHEM 124	Principles of Chemistry I with Laboratory	4
CHEM 125	Principles of Chemistry II with Laboratory	4
CHEM 237	Organic Chemistry I	4
PHYS 123	General Physics I: Mechanics	4
CHEM 122	Principles of Chemistry I	3
List Computer Science Requirements		
CS 105	Introduction to Computer Programming	2
or CS 110	Computing Principles	
List Humanities and Social Sciences Requirements		
See Illinois Tech Core Curriculum, Sections B and C		
List Interprofessional Project (IPRO) Requirements		

See Illinois Tech Core Curriculum, Section E

List Technical Elective Course Options

CHEM 239	Organic Chemistry II	3
or CHEM 247	Analytical Chemistry	
BIOL 214	Genetics	3
or BIOL 430	Human Physiology	
BIOL 403	Biochemistry	4
or BIOL 404	Biochemistry Laboratory	

Only 1 course (3-4 credit h) required

List Free Elective Credit Hours (if applicable) 47 12

Semester-by-semester plan of study for the degree program

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
FDSN 100 INTRO TO THE PROFESSION	3	BIOL 107	3
MATH 151	5	CHEM 125	4
CHEM 124	4	FDSN 201	3
CS 105	2	SOCIAL SCIENCES ELECTIVE	3
-		HUMANITIES 200-LEVEL COURSE	3
-	0	-	0

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
CHEM 237	4	MATH 225	3
BIOL 210	3	FDSN 310 FOOD CHEMISTRY WITH LAB	3
PHYS 123	4	FDSN 300	3
FDSN ELECTIVE	3	NON-FDSN ELECTIVE taken in consultation with Adisor	3
HUMANITIES OR SOCIAL SCIENCES ELECTIVE	3	HUMANITIES ELECTIVE (300+)	3
-	0	-	0

Year 3

Semester 1	Credit Hours	Semester 2	Credit Hours
FDSN 304 FOOD BIOTECHNOLOGY	3	FDSN 401	3
FDSN 311 FOOD ANALYSIS AND PROPERTIES	3	FDSN ELECTIVE	3
FDSN 320 FOOD LAW, LABELS, AND HEALTH CLAIMS	3	IPRO 397	3
CHEM/BIO TECHNICAL ELECTIVE	3	FDSN ELECTIVE	3
HUMANITIES ELECTIVE (300+)	3	NON-FDSN ELECTIVE taken in consultation with Adisor	3
NON-FDSN ELECTIVE taken in consultation with Adisor	3	SOCIAL SCIENCES ELECTIVE (300+)	3
-	0	-	0

Year 4

Semester 1	Credit Hours	Semester 2	Credit Hours
IPRO 497	3	FDSN 412 PRESERVATION PROCESSING	3
FDSN 420 US FOOD SAFETY REGULATIONS	3	FDSN 411 FOOD MICROBIOLOGY WITH LAB	3
FDSN ELECTIVE	3	FDSN ELECTIVE	3
FDSN 410 FOOD PLANT OPERATIONS	3	FDSN 430 CAPSTONE	3
SOCIAL SCIENCES ELECTIVE (300+)	3	NON-FDSN ELECTIVE taken in consultation with Adisor	3
-	0	-	0

Total Credit Hours: 0

Reviewer
Comments

Key: 521