Culinary and Food Science Bachelor's Degree (CFS.BAS)

Culinary and Food Science Bachelor's Degree (CFS.BAS)

The Bachelor of Applied Science degree in Culinary and Food Science prepares students to join the food industry as entry-level food scientists and technologists, or to enter related occupational areas including product research and development, quality control and food safety, regulatory compliance, food production supervision, and specialty ingredient sales.

During the first two years of the bachelor's program students focus on fundamentals of culinary arts. Students develop their skills in the Midwest Culinary Institute's state-of-the-art culinary and baking laboratories, under the supervision of faculty members with professional expertise.

In the third and fourth years students expand their culinary and food science skills. Upper-level coursework includes food ingredient functionality, food product design and development, sensory evaluation and testing, food microbiology, and other preparation for professional careers.

Students participate in experiential learning through cooperative education in each year of the bachelor's degree program.

Students who wish to transfer credit to Cincinnati State for previous coursework completed at another institution must meet with the Program Chair. Course transfer credit may be limited, based on program accreditation and student success in the previous coursework.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (http://www.cincinnatistate.edu/academics/admission) section of the College website.

Culinary and Food Science (CFS)

First Year				
Semester 1		**Lec**	**Lab**	**Credits**
FYE XXX First Year Experience Elective		1	0	1
CUL 100	Culinary Demonstration	2	0	2
CUL 101	Culinary 1	0	6	3
CUL 115	Food Service Sanitation	1	0	1
ENG 101	English Composition 1	3	0	3
MAT 151	College Algebra	3	2	4
Semester 2				
BUS 190	Professional Practices	1	0	1
CUL 102	Culinary 2	0	6	3
CUL 105	Culinary Baking	0	6	3
ENG 10X English Composition Elective		3	0	3
CHE 110	Fundamentals of Chemistry	3	3	4
HRM 110	Food and Beverage Cost Control	3	0	3
Semester 3				
CUL X9X Cooperative Education Elective 1: Culinary Arts		1	40	2
Second Year				
Semester 1				
CUL 110	Culinary Nutrition	0	6	3
CUL 200	Garde Manger	0	8	4
CUL 205	Culinary Production	0	6	3
CHE 111	Bio-Organic Chemistry	3	3	4
ACC 101	Financial Accounting	2	2	3
Semester 2				
CUL X9X Cooperative Education Elective 2: Culinary Arts		1	40	2
Semester 3				
CUL 210	International Cuisine	0	6	3
CUL 290	Culinary Capstone	0	6	3
XXX XXX Arts/ Humanities Elective		3	0	3
LAW 101	Business Law	3	0	3
MGT XXX Management Elective		3	0	3
Third Year				
Semester 1				
CFS 320	Formulation and Ingredient Functionality	1	4	3
CFS 315	Chemistry and Analysis of Food	3	3	4
CFS 340	Colloquium on Current Food Topics	3	0	3
XXX XXX Directed Elective 1		3	0	3
Semester 2				
BIO 310	Food Microbiology	2	3	3
CFS 360	Science in Food and Cooking	1	4	3
MAT 131	Statistics 1	2	2	3
CFS 325	Food Product Development	1	4	3
Semester 3				

CFS XXX Cooperative Education 1: Culinary and Food Science		1	40	2
Fourth Year				
Semester 1				
CFS 420	Food Safety and Quality	3	0	3
CFS 430	Food Processing	3	2	4
CFS 410	Sensory Evaluation and Food Product Design	3	2	4
XXX XXX Directed Elective 2		3	0	3
Semester 2				
CFS 440	Food Policy, Regulations and Compliance	3	0	3
CFS 490	Culinary and Food Science Capstone	1	4	3
COMM 110	Public Speaking	3	0	3
XXX XXX Social/ Behavioral Science Elective		3	0	3
Semester 3				
CFS XXX Cooperative Education 2: Culinary and Food Science		1	40	2
Total Credits:		**76**	**248**	**122**

Electives

First Year Experience Elective		
FYE 100	Essentials for College Success	1
FYE 105	Skills for College and Personal Success	2
FYE 110	Intensive College Success Strategies	3
FYE 120	College Success Strategies: Campus Integration	4
English Composition Elective		
ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
Management Elective		
MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
MGT 125	Business Ethics	3
MGT 130	Project Management	3
Arts/Humanities Elective		
Any Ohio Transfer 36 course from ART, LIT, MUS, PHI, REL, THE or any course from ASL, FRN, SPN or COMM 130		
Social/Behavioral Science Elective		
Any Ohio Transfer 36 course from ECO, GEO, HST, LBR, POL, PSY, SOC		
Cooperative Education Elective: Culinary Arts (4 credit hours required)		
CUL 191	Part-Time Cooperative Education 1: Culinary Arts	1
CUL 192	Part-Time Cooperative Education 2: Culinary Arts	1
CUL 193	Part-Time Cooperative Education 3: Culinary Arts	1
CUL 194	Part-Time Cooperative Education 4: Culinary Arts	1
CUL 291	Full-Time Cooperative Education 1: Culinary Arts	2
CUL 292	Full-Time Cooperative Education 2: Culinary Arts	2
Cooperative Education Elective: Culinary and Food Science (4 credit hours required)		
CFS 391	Part-Time Cooperative Education 1: Culinary and Food Science	1
CFS 392	Part-Time Cooperative Education 2: Culinary and Food Science	1
CFS 393	Part-Time Cooperative Education 3: Culinary and Food Science	1
CFS 394	Part-Time Cooperative Education 4: Culinary and Food Science	1
CFS 491	Full-Time Cooperative Education 1: Culinary and Food Science	2
CFS 492	Full-Time Cooperative Education 2: Culinary and Food Science	2
Directed Electives (2 courses required)		
IM 111	Computer Applications	3
CUL 220	Culinary Butchery	3
PAS 225	Artisan Bread Baking	3
MKT 105	Marketing and Customer Relations	3
MKT 115	Marketing Research for Multimedia Professionals	3
DT 120	Nutrition for a Healthy Lifestyle	3
DT 200	Introduction to Food Science	3
BREW 100	Introduction to Craft Beer	3
BREW 115	Sustainability for Brewing and Beverage	3
BREW 160	Sensory Evaluation of Beer	3
OR any MAT, CHE, BIO, COMM, CULT, ASL, FRN, SPN		

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

Culinary and Food Science Bachelor's Degree (CFS.BAS)

Graduates of the program are prepared to:

- Use culinary arts, chemistry, microbiology, and other sciences to study the principles underlying the processing and deterioration of foods.
- Apply food science knowledge to determine the best ways to process, package, preserve, store, and distribute food.
- Apply technical communication skills related to food science.
- Apply food safety practices in a food production kitchen and in a food manufacturing facility and evaluate effectiveness.
- Create food products that meet the needs of the consumer and describe the product development process from ideation through commercialization.
- Analyze food content to establish levels of vitamins, fat, sugar, and protein.
- Conduct research on ways to make processed foods safe, palatable, and healthy.

CFS Courses

CFS 315 Chemistry and Analysis of Food
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on food chemistry with emphasis on the functional properties and reactions of the major food components: carbohydrates, lipids, proteins, and water. Topics include: understanding the effect of chemical changes on the characteristics of food, using analytical and instrumental techniques to investigate food constituents and properties, and developing laboratory skills.
Prerequisites: CHE 111 and MAT 151 (minimum grade C for both), and instructor consent
Instructor Consent Required

CFS 320 Formulation and Ingredient Functionality
3 Credits. 1 Lecture Hour. 4 Lab Hours.
A course on food formulation practices including analysis of ingredient functionality and the role of current food products in the delivery of a new value proposition. Topics include: product attributes and appeal, and nutrition and safety.
Prerequisites: MAT 151 and CHE 110 (minimum grade C for both) and instructor consent
Instructor Consent Required

CFS 325 Food Product Development
3 Credits. 1 Lecture Hour. 4 Lab Hours.
A course that integrates culinary skills, food science knowledge, and effective use of functional ingredients to create high-quality and innovative food products. Topics include: general practices for food formulation, equipment use, and documentation.
Prerequisites: CFS 320 (minimum grade C) and instructor consent
Instructor Consent Required

CFS 340 Colloquium on Current Food Topics
3 Credits. 3 Lecture Hours. 0 Lab Hour.
Subject-matter experts from the food industry present information on current industry concerns from varied specialized areas, such as beverages, dairy, cultured foods, flavors, preservation, and baking science.
Prerequisites: ENG 101 and CUL 200 (minimum grade C for both) and instructor consent
Instructor Consent Required

CFS 360 Science in Food and Cooking
3 Credits. 1 Lecture Hour. 4 Lab Hours.
A course that deepens understanding of the chemistry of food and fosters better cooking through exploration of culinary science topics and related laboratory activities. Topics include: the science of sauces, flavors, Maillard reactions, emulsions, pH, and colors.
Prerequisites: CFS 315 (minimum grade C) and instructor consent
Instructor Consent Required

CFS 391 Part-Time Cooperative Education 1: Culinary and Food Science
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking a bachelor's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 311 and CFS 320 and co-op coordinator consent
Instructor Consent Required

CFS 392 Part-Time Cooperative Education 2: Culinary and Food Science
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking a bachelor's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 391 and co-op coordinator consent
Instructor Consent Required

CFS 393 Part-Time Cooperative Education 3: Culinary and Food Science
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking a bachelor's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 392 and co-op coordinator consent
Instructor Consent Required

CFS 394 Part-Time Cooperative Education 4: Culinary and Food Science
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking a bachelor's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 393 and co-op coordinator consent
Instructor Consent Required

CFS 397 Part-Time Career Education Project: Culinary and Food Science
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking a bachelors degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 and coordinator consent
Instructor Consent Required

CFS 410 Sensory Evaluation & Food Product Design
4 Credits. 3 Lecture Hours. 2 Lab Hours.
A course on business and scientific aspects of food product development and design, from ideation to commercialization. Topics include: the science of sensory evaluation and its role in product development, consumer research, trend analysis, competitive product analysis, and integration of market research and sensory analysis in product development.
Prerequisites: CFS 325 (minimum grade of C) and instructor consent
Instructor Consent Required

CFS 420 Food Safety and Quality
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on food production practices that assure quality and safety. Topics include: sanitation practices; control of pathogenic and spoilage microorganisms in food; and prevention, control, and mitigation of threats to the quality and safety of the food system.
Prerequisites: BIO 310 (minimum grade C)

CFS 430 Food Processing
4 Credits. 3 Lecture Hours. 2 Lab Hours.
A course on food production systems, including principles of scale-up and large-scale production systems, processing, and packaging technologies.
Prerequisites: CFS 360 (minimum grade C) and instructor consent
Instructor Consent Required

CFS 440 Food Policy, Regulations and Compliance
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on regulatory policies that affect food production. Topics include: the Code of Federal Regulations, regulatory agencies and their responsibilities, food labeling guidelines for dietary and health-related claims such as organic and natural, and permissible use of functional and enrichment additives.
Prerequisites: CFS 420 (minimum grade C)

CFS 490 Culinary and Food Science Capstone
3 Credits. 1 Lecture Hour. 4 Lab Hours.
Students synthesize and apply knowledge and proficiency gained throughout the baccalaureate degree program to complete a project that demonstrates skills in problem-solving, communication, and project management, as well as professional competence.
Prerequisites: CFS 410 and CFS 420 (minimum grade C for both) and instructor consent
Instructor Consent Required

CFS 491 Full-Time Cooperative Education 1: Culinary and Food Science
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking a bachelor's degree participate in their first full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 311 and CFS 320 and co-op coordinator consent
Instructor Consent Required

CFS 492 Full-Time Cooperative Education 2: Culinary and Food Science
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking a bachelor's degree participate in their second full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CFS 491 and co-op coordinator consent
Instructor Consent Required

CFS 497 Full-Time Career Education Project: Culinary and Food Science
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking a bachelors degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 and coordinator consent
Instructor Consent Required

CUL Courses

CUL 100 Culinary Demonstration
2 Credits. 2 Lecture Hours. 0 Lab Hour.
A course that uses culinary demonstrations and problem solving to prepare students for activities in CUL 101. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Placement into ENG 101A, and MAT 093 or MAT 105A (minimum grade C for both) or appropriate Math placement
Corequisites: CUL 101: Culinary 1
Instructor Consent Required

CUL 101 Culinary 1
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A course on fundamental culinary skills. Topics include: kitchen orientation, knife skills, cooking methods, and preparation of stocks, sauces, and soups.
Prerequisites: Placement into ENG 101A, and MAT 093 or MAT 105A (minimum grade C for both) or appropriate Math placement
Corequisites: CUL 100: Culinary Demonstration
Instructor Consent Required

CUL 102 Culinary 2
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A continuation of CUL 101. Topics include: advanced cooking methods; meat, fish, and poultry cookery; and platter presentation.
Prerequisites: CUL 100 and CUL 101 (minimum grade C for all)

CUL 105 Culinary Baking
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A course on concepts and techniques of baking and pastries. Topics include: product identification, use of baking equipment, production of flour confectionery items, and preparation of desserts.
Prerequisites: CUL 100 and CUL 101 (minimum grade C for both)

CUL 110 Culinary Nutrition
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A course on concepts and techniques for combining nutrition science with the art of preparing food that is wholesome and nutritionally balanced. Topics include: practical applications of nutrition theory, modifying recipes, and developing menus.
Prerequisites: CUL 102 (minimum grade C)

CUL 115 Food Service Sanitation
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course on sanitation and safety in the food service industry, which includes the National Restaurant Association Education Foundation's ServSafe Manager Certification in Food Protection Exam. Students must pass the exam with a minimum score of 75%. Successful completion earns the designations of ServSafe Food Protection Manager and Ohio Department of Health Manager Certification in Food Protection.
Prerequisites: FYE 120 or placement into ENG 101

CUL 191 Part-Time Cooperative Education 1: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent
Instructor Consent Required

CUL 192 Part-Time Cooperative Education 2: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 191

CUL 193 Part-Time Cooperative Education 3: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 192

CUL 194 Part-Time Cooperative Education 4: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 193

CUL 195 Part-Time Cooperative Education 5: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 194

CUL 196 Part-Time Cooperative Education 6: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 195

CUL 197 Part-Time Career Education Project: Culinary Arts
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 and coordinator consent
Instructor Consent Required

CUL 200 Garde Manger
4 Credits. 0 Lecture Hour. 8 Lab Hours.
A course on concepts and techniques for contemporary practice of garde manger. Topics include: basic meat fabrication, knowledge of the cold kitchen, and platter and buffet presentation.
Prerequisites: CUL 102 (minimum grade C)

CUL 205 Culinary Production
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A course on concepts of food service production and service techniques. Topics include: buffet, banquet, and a la carte production.
Prerequisites: CUL 102 and CUL 115 (minimum grade C) and BUS 190

CUL 210 International Cuisine
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A study of world cuisines. Topics include: regional products, cultural influences on food, differentiated cooking techniques, and international menus.
Prerequisites: CUL 200 (minimum grade C)

CUL 220 Culinary Butchery
3 Credits. 0 Lecture Hour. 6 Lab Hours.
A course on basic butchery and fish fabrication. Topics include: fabrication techniques including retail, production, value added products, wholesale, and personal use; and discussion of cooking methods, flavors, and textures of the cuts.
Prerequisites: CUL 102 (minimum grade C)

CUL 230 Plant-Based Cuisine
3 Credits. 1 Lecture Hour. 4 Lab Hours.
A course that explores several types of plant-based cooking and how to prepare foods, incorporate them into lifestyle choices, and enhance eating habits for optimal balance. Topics include: pickling, fermentation, using a flavor wheel, micro-growing, hydroponics, Maillard reactions, and protein alternatives.
Prerequisites: CUL 101 (minimum grade C)

CUL 290 Culinary Capstone
3 Credits. 0 Lecture Hour. 6 Lab Hours.
Students synthesize and apply knowledge and proficiency gained throughout the associate's degree program to complete projects that demonstrate skills in culinary, nutrition, costing, and management areas.
Prerequisites: CUL 110 and CUL 200 and CUL 205 (minimum grade C for all)

CUL 291 Full-Time Cooperative Education 1: Culinary Arts
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent
Instructor Consent Required

CUL 292 Full-Time Cooperative Education 2: Culinary Arts
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 291

CUL 293 Full-Time Cooperative Education 3: Culinary Arts
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CUL 292

CUL 297 Full-Time Career Education Project: Culinary Arts
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190 and coordinator consent
Instructor Consent Required