

Status: PENDING

PROGRAM REQUEST
Culinary Science

Last Updated: Stokoe, Laurie Anne
01/14/2011

Fiscal Unit/Academic Org Food Science & Technology - D1156
Administering College/Academic Group Food, Agric & Environ Science
Co-administering College/Academic Group
Semester Conversion Designation New Program/Plan
Proposed Program/Plan Name Culinary Science
Type of Program/Plan Undergraduate bachelors degree program or major
Program/Plan Code Abbreviation
Proposed Degree Title

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program				36	
Required credit hours offered by the unit	Minimum			23	
	Maximum			23	
Required credit hours offered outside of the unit	Minimum			13	
	Maximum			13	
Required prerequisite credit hours not included above	Minimum			12	
	Maximum			12	

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

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Program Learning Goals

- 1. Culinary Skills
 - A. Have an understanding of business concepts important for effective food business decision-making
- 1. Culinary Skills
 - B. Perform the required tasks of conversion, costing, and ordering, using basic computer functions while working professionally in a teamwork environment; Use effective oral, written, and non- verbal communication skills.
- 1. Culinary Skills
 - C. Can identify the social and historical contexts that influence—and have influenced—the culinary field using a variety of ingredients, including those important to different culinary cultures worldwide
- 1. Culinary Skills
 - D. Perform basic cooking techniques (roast, sauté, broil, bake, knife skills), operate a variety of restaurant equipment efficiently, effectively, and safely, use recipes, production sheets, and function sheets;
- 2. Food Safety and Microbiology
 - A. Will understand the microbiology of pathogenic, spoilage and beneficial microorganisms in food systems
- 2. Food Safety and Microbiology
 - B. Will be able to apply principles of food preservation and processing including cleaning, sanitation and water management
- 3. Plant Management
 - A. Understand the laws that relate to the use of materials in foods and the operation of food plants and the federal, state and local level
- 3. Plant Management
 - B. Will understand the principles of food plant operation and management.
- 3. Plant Management
 - C. Will understand the principles of human resource management and development.
- 4. Applied food science
 - A. Will be able to integrate and apply food science principles (food chemistry, microbiology, engineering/processing, etc.) to problems in food processing and product design.
- 4. Applied food science
 - B. Will have an awareness of current issues in food science and food laws and regulations
- 5, Success skills
 - A. Will have the ability to use communication skills (i.e., oral and written communication, listening, interviewing, etc.)
- 5, Success skills
 - B. Will be able to apply critical thinking/problem solving skills (i.e., creativity, common sense, resourcefulness, scientific reasoning, analytical thinking, etc.)
- 5, Success skills
 - C. Will have an understanding of professionalism skills (i.e., ethics, integrity, respect for diversity)
- 5, Success skills
 - D. Will be able to utilize life-long learning skills
- 5, Success skills
 - E. Will be able to utilize interaction skills (i.e., teamwork, mentoring, leadership, networking, interpersonal skills, etc.)
- 5, Success skills

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- F. Will understand information acquisition skills (i.e., written and electronic searches, databases, Internet, etc.)
- 5, Success skills
- G. Will understand organizational skills (i.e., time management, project management, etc.)

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No

DIRECT MEASURES (means of assessment that measure performance directly, are authentic and minimize mitigating or intervening factors)

Standardized tests

- Certification or licensure examinations

Classroom assignments

- Other classroom assessment methods (e.g., writing assignments, oral presentations, oral exams)

Evaluation of a body of work produced by the student

- Practicum, internship or research evaluation of student work
- Capstone course reports, papers, or presentations

INDIRECT MEASURES (means of assessment that are related to direct measures but are steps removed from those measures)

Surveys and Interviews

- Student survey
- Alumni survey
- Employer feedback or survey
- Student evaluation of instruction
- Student interviews or focus groups

Additional types of indirect evidence

- Job or post-baccalaureate education placement
- Student or alumni honors/recognition achieved
- External program review

USE OF DATA (how the program uses or will use the evaluation data to make evidence-based improvements to the program periodically)

- Analyze and discuss trends with the unit's faculty
- Analyze and report to college/school
- Analyze and report to accrediting organization

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

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Attachments

- Culinary curriculum map.docx: Curricular Map
(Curricular Map(s). Owner: Mangino, Michael E)
- Attachment culinary.pdf: all material required in 2
(Letter from Program-offering Unit. Owner: Mangino, Michael E)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Mangino, Michael E	09/29/2010 04:06 PM	Submitted for Approval
Revision Requested	Barringer, Sheryl Ann	09/30/2010 09:22 AM	Unit Approval
Submitted	Mangino, Michael E	09/30/2010 10:02 AM	Submitted for Approval
Revision Requested	Barringer, Sheryl Ann	09/30/2010 12:09 PM	Unit Approval
Submitted	Mangino, Michael E	09/30/2010 12:27 PM	Submitted for Approval
Revision Requested	Barringer, Sheryl Ann	09/30/2010 12:39 PM	Unit Approval
Submitted	Mangino, Michael E	09/30/2010 12:45 PM	Submitted for Approval
Approved	Barringer, Sheryl Ann	09/30/2010 04:34 PM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	10/07/2010 01:02 PM	College Approval
Submitted	Mangino, Michael E	10/12/2010 11:02 AM	Submitted for Approval
Revision Requested	Pfister, Jill Ann	10/12/2010 01:15 PM	Unit Approval
Submitted	Mangino, Michael E	10/12/2010 01:46 PM	Submitted for Approval
Approved	Barringer, Sheryl Ann	10/12/2010 02:02 PM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	11/01/2010 01:14 PM	College Approval
Submitted	Mangino, Michael E	11/29/2010 07:38 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	11/29/2010 08:10 AM	Unit Approval
Revision Requested	Pfister, Jill Ann	12/29/2010 09:08 AM	College Approval
Submitted	Mangino, Michael E	12/29/2010 10:25 AM	Submitted for Approval
Approved	Mangino, Michael E	12/29/2010 10:25 AM	Unit Approval
Approved	Stokoe, Laurie Anne	01/14/2011 04:22 PM	College Approval
Pending Approval	Soave, Melissa A	01/14/2011 04:22 PM	CAA Approval

The Department of Food Science & Technology is submitting the following

BS in Food Science	Converted
BS in Ag – Food Business	Converted
BS in Culinary Science	New
Minor in Food Processing	Converted
Minor in Food Safety	Converted
MS in Food Science	Converted
PhD in Food Science	Converted

The faculty held numerous meetings as a whole and in subgroups during this process. A faculty member attended the UCAT session on semester conversion and chaired a conversion committee.

The committee started by examining the results of two recent reviews by two external groups, The National Institute of Food and Agriculture (NIFA) formerly Cooperative State Research, Education, and Extension Service (CSREES) and The Institute of Food Technologists. The later review required that we map learning outcomes with courses.

Using the material generated for and by these reviews the committee considered what outcomes were still appropriate for our programs and how to best insure that students achieve these outcomes. A set of learning outcomes were generated and discussed with faculty. The committee also examined the curricula of 15 other food science programs to examine their learning outcomes and the course work that was utilized to achieve them. A grid was developed to show courses that were required by all or nearly all programs and others that were unique.

We also examined exit surveys of graduating students who were asked to rate the level of preparedness for each of our learning objectives. Graduates who were out for ten or more years were asked to rate the effectiveness of their training in the same areas. We were gratified to note that for virtually all learning outcomes students and alumni rated their education as good or better. The ranking of the new graduates did not differ much from those who had been working. Alumni tended to rank their preparedness in communication skills a little lower but ranked areas such as working in teams and problems solving higher than did new graduates.

The department was represented at all meetings of the college semester committee and was kept informed of the plans of other departments as they considered changes in courses and curricula. The committee also met with representatives from Animal Science, Food Agricultural and Environmental Engineering as well as Human Nutrition and Food Management as changes in their courses could have a large impact on some of our courses. We also considered their input as we redesigned courses.

This information was shared with the entire faculty who approved the suggested learning outcomes by a voice vote. A list of ten courses were devised that would serve as the basis for our programs. Committees of faculty who taught quarter equivalent courses, related courses or courses that were being combined were formed and charged with developing syllabi and learning outcomes for each of the ten courses. They were also asked to consider at what level the learning outcomes for the degree were being met by these courses.

The proposed curriculum was discussed with two student focus groups and the Department's Industry Advisory Board. The majority of student comments regarded the new order of courses and better identification of prerequisites. They felt the new curriculum was clearer and more logical. The advisory board advocated for a continuation of the requirements of communications and third writing and liked the problem solving nature of the major capstone courses.

All course committees presented their material to the semester committee in groups of related courses. This was so that all were aware of what others were accomplishing, so that expectations of related courses were known by those concerned and to allow discussion and suggestions for modification.

Modified syllabi were posted to a web site to allow all faculty easy access and the chance to provide feedback. After the original ten courses were redesigned the remaining support courses were also examined and converted to a semester format. A similar process was followed for our graduate degree programs

A new program is also proposed as a result of work of collaboration between our department and the Central Ohio Technical College (COTC). It proposes a two plus two program combining an Associate Degree in Culinary Science with two years of work in the Department of Food Science and Technology to yield a BS in Culinary Science. Graduates from other accredited two-year culinary programs would also be able to enter the program. They would likely have to take three or four additional courses in the natural sciences. Students could also enter the program while a culinary degree was in progress. Students who meet all of the program requirements but do not have a formal culinary degree will still be eligible of a BS in Culinary Science. It would be possible for students to complete all by 16 hours required for the degree at Ohio State. A minor from an approved culinary program would be necessary to complete all the degree requirements.

The Culinary Science major will use many of the courses in the existing Food Science and Food Business Management majors, but is differentiated by an emphasis in culinary arts with supporting courses in hospitality management. The department of consumer sciences has agreed to offer courses that total 13 semester hours as part of this degree program. Students with a culinary

background will enrich food science courses by the unique perspective they bring. The courses they take in food processing, food additives, food law, food safety, etc. will make them better able to adapt to the needs of large scale food production than would the typical culinary graduate.

The final curricula for all degrees and minors were unanimously approved at a special faculty meeting convened to discuss the final semester proposal.

The faculty of the department is excited about the revised programs and is confident that the better packaging of learning objectives and alignment of prerequisite courses that has resulted will make our degree offerings stronger.

Program Rationale Statement

Food science students traditionally have required organic chemistry, biochemistry, physics, an introduction to engineering and microbiology before they were prepared to take courses within the major. At the time that the Food Business option was first offered we used courses already in existence for the BS in Food Science along with technical electives and a minor to construct the degree. The degree was proposed because of repeated request by employers to produce graduates who would be better prepared for management positions while still having a significant background in food processing and safety. Our typical graduates were more suited to positions in research. We reduced the science requirements for this degree option and replaced them with a core of business courses. We have evaluated the performance of food business students in our classes and have received feedback from employers. Demand for graduates and satisfaction with their preparation has been high.

Currently a demand has emerged for students who have a background in the culinary field that could be coupled with a knowledge of food production and product development at an industrial scale. Culinary Science will integrate the study of culinary arts with food science and technology. Students graduating with this major will be able to combine talent in culinary arts with scientific and technical knowledge of food to design food ingredients and prepare new food products for retail and food service operations. The need for this type of training has increased as food processors have been challenged by more sophisticated consumer demands for food that tastes good, is quick to prepare, is nutritious and safe. Last year, for example, over 9,000 new food products were brought to the marketplace.

Graduates of this program will work in ingredient or food companies as well as larger food service operations. Ohio is the home to over 1,000 food and beverage processing establishments who employ over 59,000 workers with sales receipts of over \$23 billion. In addition more than 700 small food entrepreneurs sell over \$25 million worth of products in Ohio. Job titles for graduates include

product development scientist, product development chef, research chef and R&D chef.

Requirements for this degree could be met as a part of a 2+2 program leading to a B.S. in Agriculture with a major in Culinary Science. The preliminary concept was developed in collaboration with the Central Ohio Technical College (COTC) in Newark, Ohio. Students could work for two years to obtain an Associate Degree in Culinary Science and then transfer to OSU to complete a B.S. degree with a major in Culinary Science after an additional two years of study. Graduates from other accredited two-year culinary programs would also be able to enter the program. They would likely have to take three or four additional courses in the natural sciences. Students could also enter the program while a culinary degree was in progress. Students who meet all of the program requirements but do not have a formal culinary degree will still be eligible of a BS in Culinary Science. It would be possible for students to complete all by 16 hours required for the degree at Ohio State. A minor from an approved culinary program would be necessary to complete all the degree requirements.

The associate degree in Culinary Science will be approved by the American Culinary Federation Education Foundation Accrediting Commission while the four year degree will be approved by the Research Chef's Association.

The Culinary Science major will use many of the courses in the existing Food Science and Food Business Management majors, but is differentiated by an emphasis in culinary arts with supporting courses in hospitality management. Most of the courses in hospitality could be completed Students with a culinary background will enrich food science courses by the unique perspective they bring. The courses they take in food processing, food additives, food law, food safety, etc. will make them better able to adapt to the needs of large scale food production.

Culinary Science programs are relatively new, but have been in existence since 2001. Land grant institutions that offer the major include Purdue, Clemson, Rutgers, Nebraska and the University of Massachusetts.

I recommend this program for approval and I am willing to provide additional information or answer question as needed.

Thanks



Mike Mangino
Professor Emeritus & Interim Chair

List of Semester Courses

2 Year Culinary degree. Courses in bold will be completed in the culinary program. Courses in bold italics could be completed in either program.

	Course Number	Cr-Hrs
General Education Courses		55
FAES or USAS	100	1
Writing Level 1		3
Writing Level 2		3
Ag comm. or comm	390 or 321	3
Data Analysis		3
Math	148	4
Biology	101 or 113	4
Chemistry	101 or 121	5
Social Science 1 Category A Rural soc	105	3
Social Science 2 Category B Ag Econ	200	3
Literature		3
Arts		3
Historical Study		3
<i>Culture & Ideas or History</i>		3
Option 1 Chemistry or Physics	Chem 122 or physics 103or 111or161?	5
Option 2 Micro	509	4
Internship	589	1
College Capstone	597	3
Minor Cuisine (At Culinary)		16
Intro to culinary		
Garde Manager		
World Cusines		
Baking, Pastry, Dessert		
Banqueting and Catering		
Planning and Cost Control		
Major Requirements		39
Food Science courses		
Science of Food	2200	3
Intro to Food Science	2400	3
Food Safety	4536	3
Food Quality Assurance	5310	2
Food Additives	5710	2
Processing option	5410 or 5420 or 5430	3
Food Plant Management	5330	2
Capstone	5720 or 5730	3
Food Law	5640	2
Introduction to Culinary	CSHSPMG 1600 (COTC 6000)	2
Food Service and Safety	HUMANNTR 450 (COTC 6020)	3
Beverage Management	CSHSPMG 2610 (COTC 6085)	2
Principles of Food Production - Lecture	CSHSPMG 2700 (COTC 6030)	3
Principles of Food Production - Laboratory	CSHSPMG 2710 (COTC 6030)	1
Controlling Food, Beverage, and labor costs	CSHSPMG 3700 (COTC 6070)	3
Meat Processing	Meat Science 4500	2
Electives		9
Total for the Degree		121

B.S. in Agriculture
Major: Culinary Science

This major is designed for students transferring from Associate Degree Culinary programs. It cannot be completed with only baccalaureate courses offered at OSU.

All students must complete two Global Issues courses. This requirement is the successor to the diamond and asterisk requirement. All students must take a Social Diversity requirement in the GE by completing Rural Sociology 1500 or Sociology 101.

FAES 100 or USAS 100, etc	1	Social Science 1 (Rural Soc 1500 or Soc 101)	3
Writing Level 1	3	Social Science 2 (AED Econ 2001 or Econ 2001)	3
Writing Level 2 (2367)	3	Historical Study	3
Agr Comm 3130 or Comm 321	3	Culture & Ideas or Additional Historical Study	3
Math 1148	4	Literature	3
Data Analysis (from list)	3	Art	3
Biology 1101 or 1113	4	Contemporary Issues/ College Capstone (3597)	3
Chemistry 1110 or 1210	5	Minor Option--Cuisine	16
Microbiology 4090	4	Major	39
Chem 1220 or Physics 103 or 106 or 161	3-5	Internship/Experiential Learning	1
		<u>Electives</u>	<u>9-11</u>
		TOTAL	121

Alternative Minor Option—From Culinary Institution

16

Introduction to Culinary
Garde Manager
World Cuisines
Baking, Pastry, Dessert
Banqueting and Catering
Planning and Cost Control

Major Requirements

39

Required Courses

FDSCTE	2200	The Science of Food	3
FDSCTE	2400	Introduction to Food Science	3
FDSCTE	4536	Food Safety and Public Health	3
FDSCTE	5310	Food Quality Assurance	2
FDSCTE	5710	Food Additives	2
FDSCTE	5330	Food Plant Management	2
FDSCTE	5640	Food Law	2

Select one capstone course from the following: 3

FDSCTE	5720	Food Product Development
FDSCTE	5730	Technical Problem Solving

Select one processing course from the following: 3

FDSCTE	5410	Fruits & Vegetable Processing
FDSCTE	5420	Dairy Processing
FDSCTE	5430	Food Fermentations

Introduction to Culinary	CSHSPMG 1600 (COTC 6000)	2
Food Service and Safety	HUMANNTR 450 (COTC 6020)	3
Beverage Management	CSHSPMG 2610 (COTC 6085)	2
Principles of Food Production Lecture	CSHSPMG 2700 (COTC 6030)	3
Principles of Food Production Laboratory	CSHSPMG 2710 (COTC 6030)	1
Controlling Food, Beverage, and Labor Costs	CSHSPMG 3700 (COTC 6070)	3
Meat Processing	Meat Science 4500	2

Quarter Advising Sheet(s) (required for re-envisioned or converted programs only)

Not applicable

Transition Policy

Not applicable

Concurrence from consumer science

From: Jonathan Fox <JFox@ehe.osu.edu>

Date: December 17, 2010 7:56:32 PM EST

To: Mike Mangino <mangino.2@osu.edu>

Cc: Margaret Binkley <mbinkley@ehe.osu.edu>, Wayne Johnson <WJohnson@ehe.osu.edu>, Jay Kandampully <JKandampully@ehe.osu.edu>, Betty Kaye <BKaye@ehe.osu.edu>, Erica Mitchell <emitchell@ehe.osu.edu>, Thomas George <TGeorge@ehe.osu.edu>

Subject: RE: Culinary

Hi Mike,

Thank you for taking the time to meet with our HM group yesterday. Erica Mitchell has summarized the meeting below and we fully support the proposal. If you need more than this email for your proposal please let us know.

Jonathan

Jonathan Fox, Ph.D.
Interim Chair
Consumer Sciences

From: Erica Mitchell

Sent: Fri 12/17/2010 2:39 PM

To: Jonathan Fox

Cc: Margaret Binkley; Betty Kaye; Jay Kandampully; Wayne Johnson

Subject: The Culinary Science Proposal

Jonathan,

Yesterday the HM group met with Mike from Food Science about their 2+2 program that is being sent for semester conversion. Overall we found no issues with this proposal and support their goals with the proposed major. We agreed that some of our courses would be available for students who wish to pursue this option that did not get a culinary degree prior to enrollment into OSU. The courses that we offered to be used were course that we knew we could support the additional enrollment with this partnership.

These course are:

CS HSPMG 1600	Introduction to Hospitality
CS HSPMG 2700	Principles of Food Production - Lectures
CS HSPMG 2710	Principles of Food Production - Laboratory
CS HSPMG 3700	Controlling Food, Beverage, and Labor Costs
CS HSPMG 2610	Beverage Management

Overall we are comfortable offering concurrence to the Food Science group on this proposed program. If a concurrence letter could be made for Mike then I believe they will be done and ready for approval from their college. Let me know if I let out anything or if there are any questions.

Thanks!

Erica Mitchell
Food Service Lab Coordinator
Department of Consumer Sciences
College of Education and Human Ecology
Email: mitchell.554@osu.edu

Provide a curriculum map** that shows how, and at what level (e.g., beginning, intermediate, advanced), the program's courses facilitate students' attainment of program learning goals.

1. Culinary Skills

- A. Have an understanding of business concepts important for effective food business decision-making
- B. Perform the required tasks of conversion, costing, and ordering, using basic computer functions while working professionally in a teamwork environment; Use effective oral, written, and non-verbal communication skills, display a positive attitude, a good work ethic, and appropriate professional behavior with coworkers and management.
- C. Can identify the social and historical contexts that influence—and have influenced—the culinary field using a variety of ingredients, including those important to different culinary cultures worldwide
- D Perform basic cooking techniques (roast, sauté, broil, bake, knife skills), operate a variety of restaurant equipment efficiently, effectively, and safely, use recipes, production sheets, and function sheets;

2. Food Safety and Microbiology

- A. Will understand the microbiology of pathogenic, spoilage and beneficial microorganisms in food systems
- B. Will be able to apply principles of food preservation and processing including cleaning, sanitation and water management

3. Plant Management

- A. Understand the laws that relate to the use of materials in foods and the operation of food plants and the federal, state and local level
- B. Will understand the principles of food plant operation and management.
- C. Will understand the principles of human resource management and development.

4. Applied food science

- A. Will be able to integrate and apply food science principles (food chemistry, microbiology, engineering/processing, etc.) to problems in food processing and product design.
- B. Will have an awareness of current issues in food science and food laws and regulations

5. Success skills

- A. Will have the ability to use communication skills (i.e., oral and written communication, listening, interviewing, etc.)
- B. Will be able to apply critical thinking/problem solving skills (i.e., creativity, common sense, resourcefulness, scientific reasoning, analytical thinking, etc.)
- C. Will have an understanding of professionalism skills (i.e., ethics, integrity, respect for diversity)
- D. Will be able to utilize life-long learning skills
- E. Will be able to utilize interaction skills (i.e., teamwork, mentoring, leadership, networking, interpersonal skills, etc.)
- F. Will understand information acquisition skills (i.e., written and electronic searches, databases, Internet, etc.)
- G. Will understand organizational skills (i.e., time management, project management, etc.)

	1A	1B	1C	1D	2A	2B	3A	3B	3C	4A	4B	5A	5B	5C	5D	5E	5F	5G
Culinary	1	1	1	1														
Culinary	2	2	2	2													1	
Culinary	3	3	3	3														2
Science of Food					1	1	1				1	1	1					
Intro to Food Science					2	2		1	1	1	1	1	1	1	1	1	1	1
Food Safety					3	3				2	2	2	2	1	1	1	1	1
Food Quality Assurance					2	3				3	3	2	3	2	2	2	2	2
Technical problem solving					1	3				3	3	3	3	3	3	3	3	3
Food Law						1	2				3	2	2	2	2	3	1	1
Food Plant Management	1	1					3	3	3			2	2	3		2	3	1
Commodity Processing Courses		1			3	3	2	2	2	3	1	1	2	1	2	1	1	1
Internship												3	3	3	3	3	3	3
Food additives						1				2	3	3	3	3	3	2	2	2

For the goals that are at the introductory level= 1, an intermediate level = 2 and an advanced level = 3