

Fiscal Unit/Academic Org	Food Science & Technology - D1156
Administering College/Academic Group	Food, Agric & Environ Science
Co-administering College/Academic Group	
Semester Conversion Designation	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name	Food Processing Minor
Proposed Program/Plan Name	Food Processing Minor
Program/Plan Code Abbreviation	FDPROC-MN
Current 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		20	13.3	15	1.7
Required credit hours offered by the unit	Minimum	8	5.3	5	0.3
	Maximum	15	10.0	11	1.0
Required credit hours offered outside of the unit	Minimum	5	3.3	4	0.7
	Maximum	5	3.3	11	7.7
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

More options in related areas were made available for students.

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.

Program Learning Goals

- Students integrate and apply food science principles (food chemistry, microbiology, engineering/processing, etc.) to problems in food processing and product design.
- Students understand the current issues in food science and food laws and regulations

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? No

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

Attachments

- CCI Subcommittee Chair Letter FAESMinors.doc: CCI Subcommittee Chair Letter

(Other Supporting Documentation. Owner: Vankeerbergen, Bernadette Chantal)

- food processing rev.docx: Allmaterial requested in 2

(Letter from Program-offering Unit. Owner: Mangino, Michael E)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Mangino, Michael E	09/30/2010 10:56 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	09/30/2010 11:54 AM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	10/07/2010 01:03 PM	College Approval
Submitted	Mangino, Michael E	11/29/2010 07:39 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	11/29/2010 08:10 AM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	11/29/2010 03:24 PM	College Approval
Submitted	Mangino, Michael E	11/30/2010 09:39 AM	Submitted for Approval
Revision Requested	Barringer, Sheryl Ann	11/30/2010 09:41 AM	Unit Approval
Submitted	Mangino, Michael E	11/30/2010 10:08 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	11/30/2010 12:47 PM	Unit Approval
Approved	Stokoe, Laurie Anne	01/14/2011 04:22 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	02/01/2011 10:50 AM	ASCCAO Approval
Submitted	Mangino, Michael E	02/25/2011 09:11 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	02/25/2011 09:26 AM	Unit Approval
Approved	Pfister, Jill Ann	03/03/2011 07:30 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	03/03/2011 08:13 AM	ASCCAO Approval
Submitted	Mangino, Michael E	03/03/2011 08:20 AM	Submitted for Approval
Approved	Barringer, Sheryl Ann	03/03/2011 08:26 AM	Unit Approval
Approved	Pfister, Jill Ann	05/05/2011 08:30 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	05/31/2011 08:44 AM	ASCCAO Approval
Submitted	Mangino, Michael E	06/01/2011 03:23 PM	Submitted for Approval
Approved	Barringer, Sheryl Ann	06/01/2011 03:39 PM	Unit Approval
Approved	Pfister, Jill Ann	06/02/2011 03:19 PM	College Approval
Pending Approval	Nolen, Dawn Jenkins, Mary Ellen Bigler Meyers, Catherine Anne Vankeerbergen, Bernadette Chantal Hanlin, Deborah Kay	06/02/2011 03:19 PM	ASCCAO Approval



Department of English

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To: Larry Krissek, Chair, Committee on Curriculum and Instruction (CCI)
From: James Fredal, Chair, CCI Social, Behavioral, Biological, Mathematical and Physical Sciences Subcommittee
Re: Semester Conversion Proposals for FAES Minors

Date: May 10, 2011

Larry:

The Sciences subcommittee of the CCI has been reviewing semester conversion proposals for the a number of minors from FAES. All but two were approved with contingencies which have since been addressed and they have been resubmitted. The final two were approved recently (5/9) with contingencies and forward directly to CCI for review and final revision. A few of these minors have added a prerequisite of Econ/AED Econ 2001 (noted below). The PACER chart in some cases also shows this as a quarter prerequisite (of 5 hours) though such a prerequisite does not appear on the relevant quarter advising sheets. We missed this on the first pass, and CCI may want to ask them to change the prerequisite/quarter box on those PACER charts from 5 back to 0 (zero). Comments for each minor are listed below. Comment for the final two a slightly more substantial as they have not yet been sent back for revision.

- 1) **Turfgrass Management:** This minor converts from its quarter equivalent with only minor changes. It includes a core of two courses (down from three quarter courses), and 6-8 hours of elective courses for a total of 13-15 hours. The proposal had a couple of errors on the PACER form which have been corrected and it now appears ready to move forward.
- 2) **Landscape Design and Management** (formerly Landscape Horticulture): This minor is being proposed with a name change to better reflect the breadth and focus of the minor. The minor will include 2 required core courses (from three semester courses) and 6-9 hours of elective courses (from 9-10 semester hours). In other ways, the proposal amounts to a straightforward conversion from the quarter version. The PACER form lists it as having minimal changes, but that should probably be changed because it's undergoing a name change. A few extraneous documents were removed and credit hour numbers corrected, and it seems now ready for approval.
- 3) **Horticulture:** Horticulture converts unproblematically from its quarter version. Students will take 1 core course (from two choices, vs. two of three choices in the quarter version) and 9-11 elective hours (vs. 10-16 quarter hours) for a minor of 13-15 hours (vs. 20-25 quarter hours). We asked that some extraneous documents be removed and approved the proposal for CCI consideration.
- 4) **Agronomy:** This minor also includes a request for a name change from Crop Science to Agronomy as more widely used and better understood among the farming community. In other ways, the conversion is straightforward, involving one required course and a set of electives. As with other minors, we asked that some extraneous material be removed. The PACER chart, it seems, still needs correction though: The minimum required hours offered by the unit should be 4

rather than 13. Also, since it's going to get a name change, it should be listed as undergoing significant rather than minimal change on the PACER form. Otherwise this proposal seems to be ready for full CCI approval.

- 5) **Environmental Economics:** Unfortunately, the dreaded “will” in the program learning goals escaped the detection of the subcommittee and will need to be excised (or the entire learning goal amputated) before this program sees the light of day. It is not clear at this point just how the word-which-shall-not-be-used escaped detection; however, inquiries are being made. In other ways, the proposal seems tolerable and is a straightforward conversion from its quarter version, including one prerequisite (AED Econ or Econ 2001), two required courses (AED Econ 4310 and 5310), and 6-9 additional elective hours.
- 6) **Outreach Education:** This minor is now called Agricultural and Extension Education but has outgrown that name and would like in the future to be called simply the Outreach Education Minor. It was submitted with one error, listing AEE 342 as 3 rather than 5 credits. That has been fixed and the minor is now ready to move forward.
- 7) **Farm Management:** The Sciences subcommittee regrets that this minor too includes a program learning goal which asserts that students “will” do things. This will have to be changed. Otherwise this proposal looks fine and converts exactly from its quarter equivalent: one prerequisite and a set of required courses complemented by a range of electives.
- 8) **International Economic and Social Development:** This seems to be a straightforward conversion: Two required quarter courses convert to two required semester courses. 10-15 additional quarter hours convert to 6-9 additional semester hours. However, they did add a 3 hour prerequisite of Econ or AED Econ 2001. Otherwise it looks ready to move forward.
- 9) **Agribusiness:** The PACER form for this minor is wrong, it seems. The maximum required hours offered by the unit should be 12, I think, not 9. Otherwise, the minor has been reduced (more than required by the 2/3 or 3/5 ratios) from 23-25 hours down to 12-15 hours. That's why some of the PACER conversion numbers are so high.
- 10) **Plant Pathology:** The Plant Pathology minor is being reduced as well, from 25 hours down to 12-14 hours, and with a slightly simpler structure than its quarter version. Students will take three required plant pathology courses; they'll select one course on plant diseases from a set of electives, and they'll then chose 1-2 additional elective courses to reach the minimum 12-14 hours. We had initially requested a few changes to the proposal (PACER numbers, typos, and GEC language) which have all been addressed.
- 11) **Food Processing Minor:** Contrary to popular belief, this minor is not just about juicers and Cuisinarts. The Sciences subcommittee reviewed this proposal on May 9th, after CCI had altered the document flow process. Hence, we are forwarding this proposal directly to CCI along with our comments and corrections. The minor is listed as including minimal changes and is generally a straightforward conversion from the quarter version.

First, the PACER form will need a few corrections:

On the Credit Hour Explanation:

- Column C, 5th line: The maximum required credit hours offered outside the unit is listed as 4, but should be 11.
- Column C, last line: The maximum required prerequisite credit hours not included above is listed as 9, though it is not clear where they come from. The proposal should identify and explain the prerequisites or change this number to 0 (zero).

The program learning goals contain the hated “will [be able to]” formation. The proposal should remove the “students will.” The goals might then read (for example), “Students integrate...” and “Students understand...”

Also, there are a few errors on the list of semester courses to match those on the Semester Advising Sheet:

- Microbiology 4090 will be Microbiology 4000 (4 cr)
- Microbiology 5000 will be Microbiology 4100 and will be 5 credit hours.

Finally, for the sake of clarity and consistency, the proposal should include all credit hour numbers (including for Fd Sc&Te 5420, 5430, 5410, 5400, Anim Sci 4500, and Fa&B Eng 3481) on both the course list and the Semester Advising sheet.

12) **Food Safety:**

First, the PACER form Credit Hour Explanation:

- Column C, 5th line: The maximum required credit hours offered outside the unit should be 8 (instead of 7).
- Column C, last line: The maximum prerequisite hours not included above is listed as 9. The proposal should identify and explain the required prerequisite courses or change that number to 0.

Then, the PACER Program learning goals: Rephrase these goals without “will” to read: “Students understand...” and “Students apply principles...”etc.

Finally, the list of semester courses:

- Microbiology 4090 will be Microbiology 4000 (4 cr)
- Microbiology 5000 will be Microbiology 4100 and will be 5 credit hours.

Thank you.
Jim F.

Letter from the Program-offering Unit

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.

This information was shared with the entire faculty and a list of ten courses were devised 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.

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 of two-year culinary programs not from COTC but with a two year culinary degree from a program approved the American Culinary Association would also be eligible to participate. They would probably have to complete an additional three or four science courses to meet all degree requirements.

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

This minor will make use of the revised courses on a semester basis. While we feel the content of the courses will be improved there were no changes made to the minor. It is a simple conversion of a minor on quarters to one on semesters.

List of Semester Courses

Required: 12-13 hours

FdSc&Te 2400 Intro to Food Processing	3
FdSc&Te 5330 Food Plant Operations	2
One from:	4-5
Microbiology 4090 Basic and Practical Microbiology	4
Microbiology 4100 General Microbiology	5
One from:	3
Fd Sc&Te 5420 Dairy Processing	3
Fd Sc&Te 5430 Food Fermentations	3
Fd Sc&Te 5410 Fruit & Vegetable Processing	3
Fd Sc&Te 5400 Principles of Food Processing	3
Anim Sci 4500 Meat Processing	3
FA&B Eng 3481 Intro to Food Process Engineering	3

Electives: Minimum of 3 hours from the following classes

Fd Sc&Te 5310 Food Quality Assurance	3
Fd Sc&Te 5420 Dairy Processing	3
Fd Sc&Te 5430 Food Fermentations	3
Fd Sc&Te 5410 Fruit & Vegetable Processing	3
Fd Sc&Te 5400 Principles of Food Processing	3
Anim Sci 4500 Meat Processing	3
Fd Sc&Te 5710 Food Additives	2
Fd Sc&Te 5400 Principles of Food Processing	3
Fd Sc&Te 5536 Food Microbiology Lecture	2
Fd Sc&Te 5450 Food Packaging	2
FA&B Eng 3481 Intro to Food Process Eng	3

Semester Advising Sheet(s)

Food Processing Minor (Fd Proc, 023)

College of Food, Agricultural,
and Environmental Sciences
The Ohio State University

Mike Mangino, Coordinating Adviser
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A minor in food processing is for students who wish to develop a better understanding of the fundamental principles of food processing for value addition, with a focus on plant operations. This minor will be especially helpful for those students who plan to work in the food industry. Topics covered include microbiology and engineering as food is processed and packaged.

The minor in Food Processing consists of 15-16 hours including 12-13 hours of required courses.

Required: 12 hours

FdSc&Te 2400 Intro to Food Processing	3
FdSc&Te 5330 Food Plant Operations	2
One from:	
Microbiology 4000 Basic and Practical Microbiology	4
Microbiology 4100 General Microbiology	5
One from:	3
Fd Sc&Te 5420 Dairy Processing	
Fd Sc&Te 5430 Food Fermentations	
Fd Sc&Te 5410 Fruit & Vegetable Processing	
Fd Sc&Te 5400 Principles of Food Processing	
Anim Sci 4500 Meat Processing	
FA&B Eng 3481 Intro to Food Process Eng	

Electives: 3 hours from the following classes

(required and elective courses in the minor must total 15 -17 credit hours)

Fd Sc&Te 5310 Food Quality Assurance	3
Fd Sc&Te 5420 Dairy Processing	3
Fd Sc&Te 5430 Food Fermentations	3
Fd Sc&Te 5410 Fruit & Vegetable Processing	3
Fd Sc&Te 5400 Principles of Food Processing	3
Anim Sci 4500 Meat Processing	3
Fd Sc&Te 5710 Food Additives	2
Fd Sc&Te 5536 Food Microbiology Lecture	2
Fd Sc&Te 5450 Food Packaging	2
FA&B Eng 3481 Intro to Food Process Eng	3

Restrictions and General Information

1. This minor is not available to students majoring in Food Science.
2. A minimum overall CPHR for courses comprising the minor shall be 2.0.
3. A minor should be declared at the time a student accumulates 60 hours.
4. A maximum of one course may overlap between the minor and the GE (Writing and Communication, Foreign Language, Literature, Visual and Performing Arts, Culture and Ideas, Historical Study, Quantitative Reasoning, Data Analysis, Natural Science, Social Science, Cross-Disciplinary Seminar, Service-Learning, Education Abroad)
5. Courses taken on a pass/non pass basis may not be applied to the minor.

The Ohio State University
College of Food, Agricultural, and Environmental Sciences
Approved by the College of Arts and Sciences

Food Processing Minor (FDPROC-MN)

Jeff Culbertson, Coordinating Adviser
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<http://cfaes.osu.edu/current-students/academics-advising/minor-requirements>

A minor in food processing is for students who wish to develop a better understanding of the fundamental principles of food processing for value addition, with a focus on plant operations. This minor will be especially helpful for those students who plan to work in the food industry. Topics covered include microbiology and engineering as food is processed and packaged.

The minor in Food Processing consists of 20 credit hours of course work including 14-15 hours of required courses. The distribution is listed below. If you follow the guidelines on this sheet in completing the minor, you should file the Minor Program Form with your college or school counselor. Any variation from the program described on this sheet needs the approval of the coordinating advisor.

Required courses (14-15 credit hours)

Fd Sc&Te 401 3
Fd Sc&Te 648 3

One from: 5
Microbiology 509 (5)*
Microbiology 520 (5)*

* If Microbiology 509 or 520 is taken for major or GEC, then 5 additional elective credits must be taken.

One from: 3-4
Fd Sc&Te 610 (4), 611 (4), 613 (4), 630 (3)
Anim Science 555.02 (4)
FA&B Eng 481 (3)

Electives (5-6 credit hours)

Fd Sc&Te 410 (3), 610 (4), 611 (4), 613 (4), 621 (3),
630 (3), 636.01 (3), 649 (3)
Anim Science 555.02 (4)
FA&B Eng 481 (3)

Food Processing Minor program guidelines

The following guidelines govern this minor.

Required for graduation No

Credit hours required a minimum of 20

Transfer credit hours allowed A maximum of 10

Overlap with the GEC If Microbiology 509 or 520 is taken for major or GEC, then 5 additional elective credits must be taken.

Overlap with the major Not allowed and

- The minor must be in a different subject than the major.
- The minor is not available to students majoring in agronomy, crop science, or landscape horticulture.
- The same courses cannot count on the minor and on the major.

Overlap between minors Each minor completed must contain 20 unique hours.

100-level course For every five credit hours of 100-level course work on the minor, the minimum total required for the minor is increased by five.

Grades required

- Minimum C- for a course to be listed on the minor
- Minimum 2.00 cumulative point-hour ratio required for the minor.
- Course work graded Pass/Non-Pass cannot count on the minor.
- A minor should be declared at the time a student accumulates 90 hours.

Approval required The minor program description sheet indicates if the minor course work must be approved by:

- A college or school counselor

Filing the minor program form The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

Changing the minor Once the minor program is filed in the college office, any changes must be approved by:

- A college or school counselor

College of Arts and Sciences
Curriculum and Assessment Services
154 Denney Hall, 164 W. 17th Ave.
<http://artsandsciences.osu.edu>
DH 3/9/10
Update 8/27/10 DH

Transition Policy

Transition will not be difficult and can in most cases be handled by a course for course substitutions. It is our intent to insure that students will not be harmed in the transition process.

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

Thanks

A handwritten signature in black ink, appearing to read "Mike Mangino". The signature is written in a cursive style with a large, looping initial "M".

Mike Mangino Professor Emeritus & Interim Chair