Agenda Item #15-17
Effective: Spring 2016

Eastern Illinois University
New Course Proposal
FCS 4757, Food Product Development

Banner/Catalog Information (Coversheet)

1. **__X__New Course or ____Revision of Existing Course**
2. **Course prefix and number:** FCS 4757
3. **Short title:** Food Product Development
4. **Long title:** Food Product Development
5. **Hours per week:** __2__ Class __2__ Lab __3__ Credit
6. **Terms:** ___ Fall ___ Spring ___ Summer _x__ On demand
7. **Initial term**: ___ Fall __x_ Spring ___ Summer Year: _2016_____
8. **Catalog course description:** Application of statistical and research methodologies to food science principles for the development of an altered food product.
9. **Course attributes:**

   General education component: ____N/A_____

   ___ Cultural diversity ___ Honors ___ Writing centered ___ Writing intensive ___Writing active

10. **Instructional delivery**
    Type of Course:

    __X__Lecture _X__ Lab ___ Lecture/lab combined ___ Independent study/research

    ___ Internship ___ Performance ___ Practicum/clinical ___ Other, specify: _____

    Mode(s) of Delivery:

    _X__Face to Face ____ Online ___ Study Abroad

    ___ Hybrid, specify approximate amount of on-line and face-to-face instruction_____

11. Course(s) to be deleted from the catalog once this course is approved. __N/A__
12. **Equivalent course(s):** ____none_____

    a. Are students allowed to take equivalent course(s) for credit? ___ Yes ___ No

13. **Prerequisite(s):** FCS 3120, CHM 2430, MAT 2250G

    a. Can prerequisite be taken concurrently? ___ Yes __x__ No

    b. Minimum grade required for the prerequisite course(s)? __D_____

    c. Use Banner coding to enforce prerequisite course(s)? __x__Yes ___ No

    d. Who may waive prerequisite(s)?

___ No one ___ Chair _x_ Instructor ___ Advisor ___ Other (specify)

14. Co-requisite(s): none

15. Enrollment restrictions

a. Degrees, colleges, majors, levels, classes which may take the course: BS in Family and Consumer Sciences: Dietetics Option and MS in Nutrition and Dietetics

b. Degrees, colleges, majors, levels, classes which may not take the course: All others

16. Repeat status: _x_ May not be repeated ___ May be repeated once with credit

17. Enter the limit, if any, on hours which may be applied to a major or minor: 3

18. Grading methods: _x_ Standard ___ CR/NC __ Audit ___ ABC/NC

19. Special grading provisions:

___ Grade for course will not count in a student's grade point average.

___ Grade for course will not count in hours toward graduation.

___ Grade for course will be removed from GPA if student already has credit for or is registered in: _____

___ Credit hours for course will be removed from student's hours toward graduation if student already has credit for or is registered in: _____

20. Additional costs to students:
Supplemental Materials or Software none required

Course Fee ___No _X__Yes, Explain if yes A course fee of $15 is requested to offset the cost of food and to replace equipment as necessary.

21. Community college transfer:

____A community college course may be judged equivalent.

_X_ A community college may not be judged equivalent.

Note: Upper division credit (3000+) will not be granted for a community college course, even if the content is judged to be equivalent.

Rationale, Justifications, and Assurances (Part I)

1. _X__Course is required for the major(s) of BS in Family and Consumer Sciences: Dietetics Option

   ___Course is required for the minor(s) of _____

   ___Course is required for the certificate program(s) of _____

   __X__ Course is used as an elective for __MS in Nutrition and Dietetics

2. **Rationale for proposal:** This course was designed for three reasons: 1) to increase the amount of time undergraduate dietetics students have to manipulate food in Food Science (FCS 3120); 2) to provide a more comprehensive capstone foods course that also pulled in concepts from the business side of dietetics (marketing, entrepreneurialism, and budgeting); and 3) to provide a food-based course that graduate dietetic students could take as an approved elective. This course will increase the opportunities for research at both the undergraduate and graduate levels.
3. **Justifications for (answer N/A if not applicable)**

   Similarity to other courses: A revision to Food Science (FCS 3120) that removes the food product development components is currently being proposed. With that revision, there is no substantial duplication of content.

   Prerequisites: FCS 3120, CHM 2430 and MAT 2250G. The ability to successfully manipulate food ingredients (FCS 3120), understand foundational chemical components (CHM 2430), and calculate/interpret basic statistics is necessary for this course.

   Co-requisites: N/A

   Enrollment restrictions: Those students who do not meet the prerequisites will not be eligible to take the course.

   Writing active, intensive, centered: N/A

4. **General education assurances (answer N/A if not applicable)**

   General education component: N/A

   Curriculum: N/A

   Instruction: N/A

   Assessment: N/A

5. **Online/Hybrid delivery justification & assurances (answer N/A if not applicable)**

   Online or hybrid delivery justification: N/A

   Instruction: N/A

   Integrity: N/A

Interaction: N/A

Model Syllabus (Part II)

Please include the following information:

1. Course Number and Title: FCS 4757 Food Product Development

2. Course Description: Application of statistical and research methodologies to food science principles for the development of an altered food product. Prerequisite: FCS 3120, CHM 2430, MAT 2250G.

3. Learning Objectives:

Upon completion of this course, all students will be able to:

a. Evaluate a planned and implemented food science experiment in the development of a nutritionally-altered food product. (CT-2, CT-3, CT-4, CT-5, CT-6, WR-1, WR-2, WR-3, WR-4, WR-5, WR-6, QR-1, QR-2, QR-3, QR-4, QR-5, QR-6) (Graduate Learning Goals (GLG) a-d)
b. Develop a marketing plan in the promotion of the designed food product. (CT-2, CT-3, CT-4, CT-5, CT-6, WR-1, WR-2, WR-3, WR-4, WR-5, WR-6, QR-1, QR-2, QR-3, QR-4, QR-5, QR-6) (GLG a-d)
c. Apply food science knowledge to functions of ingredients in food. (CT-2, CT-3, CT-4, CT-5, WR-1, WR-2, WR-3, WR-4, WR-5) (GLG a, b)
d. Apply sensory and objective methods of evaluation of food products. (SL-1, SL-2, SL-3, QR-2, WR-1, CT-2, CT-3) (GLG a, b)
e. Interpret current research and statistics in the development of the designed food product. (QR-2, QR-3, QR-4, QR-5, QR-6) (GLG a, b, d)

Upon completion of this course, graduate students will, in addition to the above course objectives,

a. Draft a manuscript for possible submission to an appropriate food science journal or trade magazine. (GLG a-d)
b. Develop a media kit to promote their food product. (GLG a-d)

For graduate-level courses, identify how each of the graduate learning goals are addressed.
Depth of content knowledge (a)
Effective critical thinking and problem solving (b)
Effective oral and written communication (c)
Advanced scholarship through research and creative activity (d)

The manuscript will be in a written format for the presentation of the results whereas the development of the media kit will be an additional assignment accounting for an additional 20% of the final grade. Additionally, the degree of difficulty in the proposed design of the altered food product will be increased for the graduate student.

4. Course Materials:

Course Text:
Fuller, G.W. (2011). *New food product development: From concept to marketplace*. 3rd ed. New York, NY: CRC Press.

Supplementary materials:
Brody, A.L. & Lord, J.B. (2007). *Developing new food products for a changing marketplace*. 2nd ed. New York, NY: CRC Press.

Fuller, G.W. (2001). *Food, consumers, and the food industry*. New York, NY: CRC Press.

5. Outline of Content

I.	Overview of Designing New Food Products	5 hours
	A. Defining new food products and their characteristics	
	B. Marketing characteristics of new products	
	C. Research methodologies and statistics commonly used	
	D. Defining the need for new food products	
	E. Phases in new food product development	
	F. Generating new food product ideas	
II.	Organizing the Food Development Team	2.5 hours
	A. The roles and purpose of each member	
	B. Budgetary roles	
	C. Outsourcing of food development	
III.	Getting to know your customer	5 hours
	A. Past trends of consumerism	
	B. Market research	
	C. Defining your market strategy	
IV.	Product development and testing	20 hours
	A. Quality control issues	
	B. Test market selection	
	C. Evaluation of the results	
	D. Presentation of results	
V.	Legal and Public Policy Issues	5 hours
	A. Law and product development	
	B. Food regulation and the development process	
	C. Environmental standards	
	D. Future trends in food product development	
VI.	Final Examination	2 hours

Total Hours: 25 hours of lecture; 25 hours of lab

6. Assignments and evaluation, including weights for final course grade.

Examinations and quizzes	50
Food trends activity	50
Research article reviews	50
Food product development plan*	350

*The Food Product Development Plan will include a step-by-step procedure, based on the scientific method, on developing, testing, and promoting the altered food product. Components of this plan will include justification on food product selected and rationale for the modification; market orders; testing schedules; selection and justification of sensory and objective methods of testing the product; marketing and promotion plan; budget; and written and oral presentation of results.

The graduate students' food product development plan will have a different evaluation rubric with a higher standard.

7. Grading Scale

90-100% A 80-89% B 70-79% C 60-69% D <60% F

8. Correlation of learning objectives to assignments and evaluation.

Course Objective	**Exams/ Quizzes**	**Food Trends**	**Article reviews**	**Food Plan**	**Media Kit**	**Manu-script**
Evaluate a planned and implemented food science experiment in the development of a nutritionally-altered food product				x	x	x
Develop a marketing plan in the promotion of the designed food product.				x	x	x
Apply food science knowledge to functions of ingredients in food.	x	x	x	x	x	x
Apply sensory and objective methods of evaluation of food products.	x			x		x
Interpret current research and statistics in the development of the designed food product.	x		x	x	x	x
Graduate only: Draft a manuscript for possible submission to an appropriate food science journal or trade magazine.					x	x
Graduate only: Develop a media kit to promote their food product.					x	x

Date approved by the SFCS Curriculum Committee: January 14, 2015

Date approved by the LCBAS Curriculum Committee: February 25, 2015

Date approved by CAA: March 12, 2015

Date approved by CGS: Pending