ATTACHMENT 1B

ADD, CHANGE OR DELETE UNIT, PROGRAM REQUIREMENTS, OR ACADEMIC POLICIES

Complete this form consistent with the instructions in Academic Policy 1622.20. Use the form to add, change, or delete a program or unit or to change program policies. Proposed additions and changes must be consistent with Academic Policies 1100.40 and 1621.10 and any other policies which apply.

SECTION I: Approvals

Department / Program Chair	Date Submitted	Graduate Council Chair	Date
College Dean	Date	Faculty Senate Chair	Date
Honors College Dean	Date	Provost	Date
Core Curriculum Committee	Date	Board of Trustees Approval/Notification Date	
University Course and Programs Committee	Date	Arkansas Higher Education Coordinating Board Approval/Notification Date	
Vice Provost for Distance Education (for on-line programs)	Date		

SECTION II: Profile Data - Required Information and Name Change Information

Academic Unit: ☐ Major/Field of Study ☒ Minor ☐ Other Unit _____ ☐ Policy

Level: ☒ Undergraduate ☐ Graduate ☐ Law Effective Catalog Year _____

Program changes are effective with the next available catalog. See Academic Policy Series 1622.20

Current Name **Minor, Food Science**

College, School, Division **AFLS** Department Code **FDSC**

Current Code (6 digit Alpha) **FDSC-M** Proposed Code (6 digit Alpha) _____
Prior approval from the Office of the Registrar is required.

☐ Interdisciplinary Program CIP Code **01.1001**
Prior assignment from Office of Institutional Research is required.

Proposed Name _____
When a program name is changed, enrollment of current students reflects the new name.

SECTION III: Add a New Program/Unit

☐ For new program proposals, complete Sections II and VII and use as a cover sheet for a full program proposal as described in 'Criteria and Procedures for Preparing Proposals for New Programs in Arkansas.' ADHE
http://www.adhe.edu/divisions/academicaffairs/Pages/academicaffairs.aspx

☐ Program proposal uses courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____

SECTION IV: Eliminate an Existing Program/Unit

Code/Name _____ Effective Catalog Year _____

No new students admitted to program after Term: ___ Year: _____
Allow students in program to complete under this program until Term: ___ Year: _____

SECTION V: Proposed Changes to an Existing Program or Program Policies

Insert here a statement of the exact changes to be made: 1) Change statement to "and a minimum of 8 hours selected from the following courses (at least 5 hours must be 3000-4000 level coursework), 2) delete controlled elective courses FDSC 2503, FDSC 4203 and HESC 1213, and 3) add controlled elective courses FDSC 1103, FDSC 2603, FDSC 2701, FDSC 4413, FDSC 4754 and HESC 4213.

Check if either of these boxes apply and provide the necessary signature:

☐ Program change proposal adds courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____

☐ Program change proposal deletes courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____

Check all the boxes that apply and complete the required sections of the form:

☐ Change of Name and Code (Complete only sections I, II, V and VII.)

☒ Change Course Requirements: (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)

☐ Change Delivery Site/Method (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)

☐ Change Total Hours (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)

☐ Change in Program Policies

SECTION VI: Justification

Justify this change and state its likely effect on any other degree program (including those outside the school or college). Identify any program or program components (other than courses) to be eliminated if this program is implemented. (Program and course change forms must also be submitted for such related changes.)

1) Requirement that at least 5 hours of controlled electives must be 3000-4000 to ensure hours are not all fulfilled with lower division introductory coursework, and 2 & 3) desire to increase options for upper division controlled elective courses and delete FDSC 4203 which is no longer taught.

SECTION VII: Catalog Text and Format

In the box below, insert the current catalog text which is to be changed, with changes highlighted with the color yellow. Include all proposed changes identified in Section V. Only changes explicitly stated in Section V will be considered for approval by the University Course and Programs Committee, the Graduate Council and the Faculty Senate. If you are proposing a new program, give proposed text with all of the elements listed below. If you are proposing modified text, include these elements as appropriate.

Include the following elements, in order, in the catalog text for proposed undergraduate program(s) or program changes:

- State complete major/program name
- Briefly define or describe the major/program or discipline.
- Identify typical career goals or paths for graduates. (Optional)
- State admission requirements (if any) for entry or entry into upper/advanced level of major/program.
- Identify location in catalog of university, college/school, and department/program requirements which the student must meet in addition to hours in the major, but do not restate these requirements.
- State course requirements in the major and any allied areas, giving number of hours and specific courses; specify electives or elective areas and give numbers of hours and courses in elective pools or categories; identify any other course requirements.
- State any other requirements (required GPA, internship, exit exam, project, thesis, etc.).
- Identify name and requirements for each concentration (if any).
- Specify whether a minor or other program component is allowed or required and provide details.
- State eight-semester plan requirements

For minors, state requirements in terms of hours, required courses, electives, etc.

For graduate program/units, include elements (as needed) parallel to those listed for undergraduate programs above.

For Law School program/units, prepare text consistent with current catalog style.

For centers, prepare text consistent with current catalog style.

Jean-François Meullenet
Head of the Department

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http://www.foodscience.uark.edu/

Food science is the application of science and technology to processing, packaging, safety, product invention and distribution of food products. Food science deals with all aspects of food between production and consumption and involves many disciplines, including chemistry, microbiology, nutrition, engineering and sensory science.

Food science prepares students for many interesting, rewarding and challenging professional career opportunities in industry, business, governmental and educational organizations associated with food and food-related products. Due to the diversity and abundance of opportunities available, students graduating with a B.S.A. in food science readily obtain employment or continue studies for graduate school. Additionally, requirements for several pre-professional programs can be fulfilled while meeting requirements for the food science degree.

Students may choose one of three areas of concentration for their degree program: Food Science (FDSC), Food Technology (FDTN) or Food and Culinary Sciences (FDCU). The FDSC concentration at the University of Arkansas is one of only 39 programs in the United States and the only one in Arkansas that is approved by the Institute of Food Technologists. It provides students with a strong background in basic and applied sciences and food chemistry, microbiology, analysis, quality and engineering.

The FDTN concentration provides students interested in food industry careers with an integrated background in food science and business or nutrition. Students in the food technology concentration will complete a minor in agribusiness, general business, or nutrition while completing their core requirements, thus leaving elective hours available for further educational enhancement.

The FDCU concentration provides students interested in product development careers with an interdisciplinary background in food science and culinary arts. This concentration is a partnership program with Northwest Arkansas Community College (NWACC). Students complete their culinary arts courses on the NWACC campus for transfer credit to the UA. These courses can be taken prior to admission to the UA or taken while in residence at the UA. Food and Culinary Sciences concentration will provide students with the course work necessary to be eligible to become a Certified Culinary Scientist through the Research Chef's Association.

Students in each concentration are offered opportunities for research, internships, international experiences and selection of a minor.

Requirements for a Major in Food Science (FDSC)

State minimum core and discipline specific general education requirements:
(Course work that meets state minimum core requirements is in bold.)

Communication (6-12 hours)		
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	3
Select two courses from approved list of communication intensive courses (FDCU must choose 3000-4000 level courses)		6
U.S. History and Government (3 hours)		
Select one U.S. History Core courses		3
Mathematics and Statistics (9-13 hours)		
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3
FDSC Concentration:		10

MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
Select one of the following:		
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp)	
STAT 2023	Biostatistics (Sp)	
AGST 4023	Principles of Experimentation (Fa)	
FDTN Concentration:		6-9
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa) (for students declaring Agricultural Business or General Business minors only)	
Select one of the following:		
AGEC 2403	Quantitative Tools for Agribusiness (Sp)	
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp)	
AGST 4023	Principles of Experimentation (Fa)	
FDCU Concentration:		6
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp)	
Physical and Biological Sciences (20-31 hours)		
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
CHEM 1103 & CHEM 1101L	University Chemistry I (Su, Fa) and University of Chemistry I Laboratory (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1004 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1004 Lab) (Sp, Su, Fa)	4
Select one of the following concentrations:		
FDSC Concentration:		11-15
CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su)	
or CHEM 3603 & CHEM 3601L & CHEM 3613 & CHEM 3611L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa) and Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	
CHEM 3813	Introduction to Biochemistry (Su, Fa)	
PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	
FDTN Concentration:		4-7
CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su)	

CHEM 3813	Introduction to Biochemistry (Su, Fa) (for students declaring General Foods and Nutrition minor only)	
FDCU Concentration:		4
CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su)	
Fine Arts and Humanities (6 hours)		
Select two Fine Arts, Humanities Core courses		6
Social Sciences (9 hours)		
Select three Social Science Core courses		9
Students declaring Agricultural Business minor must take AGEC 1103 Agricultural Microeconomics and students declaring General Business minor must take ECON 2143 Basic Economics - Theory & Practice, or both ECON 2013 Macroeconomics and ECON 2023 Microeconomics		
FDSC Degree Requirements (27 hours)		
AFLS 1011	Freshman Orientation (Fa)	1
FDSC 1011	Food Science Orientation (Fa)	1
FDSC 1103	Introduction to Food Science (Sp)	3
FDSC 3103	Principles of Food Processing (Even years, Fa)	3
FDSC 3202	Introduction to Food Law (Even years, Sp)	2
FDSC 4114	Food Analysis (Even years, Sp)	4
FDSC 4304	Food Chemistry (Odd years, Fa)	4
FDSC 431V	Internship in Food Science (Sp, Su, Fa)	3
FDSC 4413	Sensory Evaluation of Food (Odd years, Fa)	3
FDSC 4713	Food Product and Process Development (Odd years, Sp)	3
General Electives (9-19 hours)		9-19
Additional Requirements for Food Science Concentration (10 hours)		
HESC 1213	Fundamentals of Nutrition (Sp, Fa)	3
FDSC 4122 & FDSC 4121L	Food Microbiology (Sp) and Food Microbiology Lab (Sp)	3
FDSC 4754	Engineering Principles of Food Processing (Odd years, Sp)	4
Additional Requirements for Food Technology Concentration (18-21 hours)		
Select one of the following:		3
FDSC 2503	Food Safety and Sanitation (Fa)	
FDSC 2523	Sanitation and Safety in Food Processing Operations (Irregular)	
FDSC 4122 & FDSC 4121L	Food Microbiology (Sp) and Food Microbiology Lab (Sp)	
Complete one of the following options (students must declare chosen minor with Bumpers College Dean's Office)		
Option 1: Agribusiness Minor (AGBS-M)		15
WCOB 1120	Computer Competency Requirement (Sp, Su, Fa) (AGME 2903 may be taken instead, but hours will be counted toward elective hours)	
AGEC 2142 & AGEC 2141L	Agribusiness Financial Records (Fa) and Agribusiness Financial Records Lab (Fa)	
AGEC 2303	Introduction to Agribusiness (Su)	
AGEC 3303	Food and Agricultural Marketing (Sp)	

AGEC 4313	Agricultural Business Management (Fa)	
Select one 3000-4000 level business course from the departmental codes: ACCT, AGEC, ECON, FINN, ISYS, MGMT, MKTG, SPCM or WCOB		
Option 2: General Business Minor (GBUS-M)		15
WCOB 1120	Computer Competency Requirement (Sp, Su, Fa)	
ACCT 2013	Accounting Principles (Sp, Fa)	
MGMT 3563	Management Concepts and Organizational Behavior (Irregular)	
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	
Select two 3000-4000 level Walton College courses chosen from department codes: ACCT, ECON, FINN, ISYS, MGMT, MKTG, SPCM or WCOB		
Option 3: General Foods and Nutrition Minor (GFNU-M)		18
HESC 1213	Fundamentals of Nutrition (Sp, Fa)	
HESC 2112	Principles of Foods (Sp, Fa)	
& HESC 2111L	and Principles of Foods Laboratory (Sp, Fa)	
HESC 3203	Human Nutrition (Sp, Fa)	
HESC 4213	Advanced Nutrition (Fa)	
Select two of the following:		
HESC 2203	Sports Nutrition (Sp)	
HESC 4223	Life Cycle Nutrition (Fa)	
HESC 4243	Community Nutrition (Sp)	

Additional Requirements for Food and Culinary Sciences Concentration (24 hours)		
HESC 1213	Fundamentals of Nutrition (Sp, Fa)	3
BAKG 1003 Introduction to Baking [1]		3
Select one of the following:		3
FDSC 2503	Food Safety and Sanitation (Fa)	
CULY 1003 Safety and Sanitation [1]		
CULY 1103 Introduction to Food Preparation [1]		3
CULY 1203 Stocks, Sauces and Soups [1]		3
CULY 1303 Center of the Plate Applications [1]		3
CULY 1403 Garde Manger [1]		3
CULY 2003 World Cuisine [1]		3
Total Hours		120

[1] Indicates NorthWest Arkansas Community College course codes.

Minor in Food Science (FDSC-M)

The Food Science Minor consists of 18 semester hours to include:

The following courses are required for a minor in Food Science:

FDSC 3103	Principles of Food Processing (Even years, Fa)	3
FDSC 4122	Food Microbiology (Sp)	3
& FDSC 4121L	and Food Microbiology Lab (Sp)	
FDSC 4304	Food Chemistry (Odd years, Fa)	4
and a minimum of 8 hours selected from the following courses (at least 5 hours must be 3000-4000 level coursework):		8
~~FDSC 2503~~FDSC 1103	~~Food Safety and Sanitation (Fa)~~Introduction to Food Science (SP)	
FDSC 2603	Science in the Kitchen (Fa)	

FDSC 2701	Food for Health (Sp)	
FDSC 3202	Introduction to Food Law (Even years, Sp)	
FDSC 4114~~3~~ & 4111L	Food Analysis and Food Analysis Lab (Even years, Sp)	
~~FDSC 4203~~FDSC 4413	~~Quality~~ Sensory Evaluation ~~and Control~~of Food (Even years, Fa)	
FDSC 4754	Engineering Principles of Food Processing (Sp)	
~~HESC 1213~~HESC 4213	~~Fundamentals of~~Advanced Nutrition (~~Sp,~~ Fa)	
Total Hours		18

A student planning to minor in food science must consult a Department of Food Science adviser.

SECTION VIII: Action Recorded by Registrar's Office

PROGRAM INVENTORY/DARS

PGRM _____ SUBJ _____ CIP _____ CRTS _____

DGRE _____ PGCT _____ OFFC&CRTY VALID _____

REPORTING CODES

PROG. DEF. _____ REQ. DEF.

Initials ____ Date _____

Distribution

Notification to:
(1) College (2) Department (3) Admissions (4) Institutional Research (5) Continuing Education (6) Graduate School
(7) Treasurer (8) Undergraduate Program Committee

8/19/13