

Attachment 1
Consent Agenda Information
Academic Affairs

College of Agriculture (11-19-12)

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Curriculum changes: Pages 11-35

College of Architecture, Planning and Design (12-21-12)

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College of Agriculture

Agronomy

ADD: AGRON 598. Undergraduate Research in Agronomy. (0 – 18). I, II, S. Independent research experience guided by faculty in crop science, weed science, range science, or soil science. K-State 8: No.

RATIONALE: A separate course is needed to track students conducting independent research under the direction of a faculty member. The tracking will be used for assessment and to identify undergraduate participation in research activities.

IMPACT: None

EFFECTIVE DATE: Fall 2013

Animal Sciences and Industry

ADD: ASI 101. Animal Sciences & Industry Orientation. (1). Fall. Introduction to the animal sciences & industry programs, activities, resources, faculty and career opportunities. Required of all freshmen in animal sciences & industry. One hour lecture a week.

RATIONALE: This course will introduce students in the animal science program to university resources, activities, faculty and career opportunities. It will be a replacement for GENAG 101 for animal science majors in their curriculum, there will be no net increase in credit hours required.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD ASI 401. Farm Animal Reproduction Laboratory. (1). Spring. Laboratory exercises with reproductive specimens of farm species. Will include adult male and female reproductive tracts, anatomical changes associated with estrous cycles and anestrus, pregnancy, fetal and placental development, semen characteristics, and ultrasonography. Pr: ASI 400 or concurrent enrollment. Two hours lab a week.

RATIONALE: The weekly 3-hour laboratory section is to be dropped from the current ASI 400 course, thus reducing the course from 4 to 3 credit hours. The rationale for eliminating the laboratory section includes less interest in agricultural species by the majority of the urban pre-veterinary students and less emphasis needed for laboratory sessions because of the quality of the textbook presentations of tissue specimen photos and diagrams. The 3-credit course is to be required in every ASI curricular option except the Animal Products option.

This elective laboratory section provides supplementary material to ASI 400. This lab is to be required in the ASI Bioscience-Biotechnology curricular option and is part of the 9-hour restricted elective ASI block in the Business, Communication, Production/Management and Science/Pre-Vet Options in ASI.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: ASI 598. Bioscience Internship in Animal Science. (1-6). Fall and Spring. Supervised professional experience in bioscience realm of animal sciences. One credit hour per one month full-time supervised and evaluated work hours. Internship proposal, evaluation by supervisor, self-assessment, and presentation of internship required. Repeatable for a maximum of 6 total credit hours.

RATIONALE: A primary way by which students can gain practical and hands-on experience in the bioscience realm is through participation in an internship that facilitates involvement in research, understanding research methodology, collection of data, data analyses, and interpretation of results. It is important that we be able to differentiate internships that include these types of experiences from other animal science-related internships for those students in our ASI Bioscience/Biotechnology option. This course (ASI 598) will be used as a choice within the "biosciences" block of courses for students enrolled in the Bioscience/Biotechnology option of Animal Science.

IMPACT: No impact on other departments/units

EFFECTIVE DATE: Fall 2013

FROM: ASI 400. Farm Animal Reproduction. (4). Spring. Basic reproductive anatomy and physiology of cattle, horses, pigs, poultry, and sheep during the first half of the semester provides a solid basis for reproduction management topics which occupy the second half of the course. Three hours recitation and three hours lab a week. Pr: ASI 102. K-State 8: Natural and Physical Sciences.

TO: ASI 400. Farm Animal Reproduction. (3). Fall and Spring. Basic reproductive anatomy and physiology of cattle, horses, pigs, poultry, and sheep during the first half of the semester provides a solid basis for reproduction management topics which occupy the second half of the course. Three hours lecture a week. Pr: ASI 102 and BIOL 198. K-State 8: Natural and Physical Sciences.

RATIONALE: The weekly 3-hour laboratory section is to be dropped from the current ASI 400 course, thus reducing the course from 4 to 3 credit hours. The rationale for eliminating the laboratory section includes less interest in agricultural species by the majority of the urban pre-veterinary students and less emphasis needed for laboratory sessions because of the quality of the textbook presentations of tissue specimen photos and diagrams. The 3-credit course is to be required in every ASI curricular option except the Animal Products option.

This elective laboratory section provides supplementary material to ASI 400. This lab is to be required in the ASI Bioscience-Biotechnology curricular option and is part of the 9-hour restricted elective ASI block in the Business, Communication, Production/Management and Science/Pre-Vet Options in ASI.

IMPACT: No impact on other departments. BIOL 198 is already required by all students in the program, so there is no change in expected enrollment. Biology was contacted and indicated no objection.

EFFECTIVE DATE: Fall 2013

FROM: ASI 490. Microcomputer Applications in Animal Sciences and Industry. (3). Fall and Spring. Applications of microcomputer techniques to the solutions of problems in animal science and related food industries. Includes use of existing software packages for breakeven analysis, farm/ranch accounting, and electronic communication with agriculture computer services. Current trends in farm computer use (hardware and software) will also be covered. Two hours lecture and two hours lab a week.

TO: ASI 290. Microcomputer Applications in Animal Sciences and Industry. (3). Fall and Spring. Applications of microcomputer techniques to the solutions of problems in animal science and related food industries. Includes use of existing software packages for breakeven analysis, animal identification and health records, feed ration analysis, farm/ranch accounting, and electronic communication ~~with agriculture computer services. Current trends in farm computer use (hardware and software) will also be covered.~~ Three hours lecture a week.

RATIONALE: Course content is more beneficial to students in their freshmen and sophomore year. Lowering course number will encourage students to take the course earlier in their academic program.

IMPACT: No impact on other colleges/departments

EFFECTIVE DATE: Fall 2013

Grain Science and Industry

ADD: GRSC 100 Grain Science & Industry Orientation. (1) Fall Introduction to the grain science & industry programs, activities, resources, faculty and career opportunities. Note: One hour lecture a week. Requisites: Required of all freshmen in grain science & industry.

RATIONALE: This course will introduce students in the grain science programs to university resources, activities, faculty, and career opportunities. It will be a replacement for GENAG 101 for BSM, FSM, MSM majors in their curriculum, there will be no net increase in credit hours required.

IMPACT: No impact on other departments

EFFECTIVE DATE: Fall 2013

ADD: GRSC 151 - Principles of Milling Laboratory (1) Fall, Spring A laboratory course to accompany Principles of Milling (GRSC 150). Laboratory exercises in grain and feed milling processes. Note: Three hours lab a week. Requisites: GRSC 150 or concurrent enrollment. BSM, FSM and MSM majors have to take GRSC 150 and GRSC 151 concurrently.

RATIONALE: A new laboratory course to complement GRSC 150 lectures. This course has the same content as the lab component of the former GRSC 150. This split will provide flexibility in department's teaching assignments.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: GRSC 201 - Fundamental Baking Calculations (1) Fall, Spring, Summer The course is designed to provide students with an understanding of the type of mathematical calculations used in the baking industry. It will cover ratio and proportion, true percent, baker's percent, how to convert a straight dough to a sponge and dough, proper water temperature calculations, specific gravity as it applies to cake making, density, specific volume as it applies to bread making, flour blending calculations in order to achieve a specific flour protein content, flour calculations for proper baking performance and purchasing, major ingredient substitutions, pie filling calculations, parts per million calculations, and baking powder neutralization values. Note: This course will be offered as a 20-module distance education course. Requisites: This class has no pre-requisites, and can be taken by an incoming freshman.

RATIONALE: This course is being offered as a Specialization Elective in both Milling and Baking Science curricula. It could also serve as a recruitment tool for students interested in Kansas State University's Grain Science & Industry milling and baking science programs. This course will be the only one of its kind offered for college credit in the country.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: GRSC 499 – Undergraduate Research in Grain Science (0-3) Fall, Spring, Summer. This course is an opportunity to earn college credit while conducting an independent research project. The overall objective of the course is to introduce students to scientific research methods and procedures in grain science and related areas through hands-on experience and individual mentoring. Students will learn how to design, conduct, analyze, and present scientific research. Note: Repeatable. Variable credit. Students are expected to invest at least 3 hours of effort per week for every hour of credit enrolled. Requisites: Sophomore, junior or senior standing in BSM, FSM, or MSM; min GPA of 2.5/4.00. A GSI faculty must agree to serve as research advisor/mentor prior to enrollment. A list of participating faculty and project areas will be available.

RATIONALE: Students will learn about the process of conducting scientifically sound research in the field of grain science. This course is designed to provide undergraduate students with the opportunity to conduct a research project in collaboration with a faculty mentor within their field of study (BSM, MSM or FSM) by pairing undergraduate students with faculty mentors who are actively engaged in research. Each student will conduct a semester long research project under the direct guidance of their faculty mentor. The time frame of the work will be decided upon by the faculty mentor and student.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: GRSC 501 - Milling Science I Laboratory (2) Spring. A laboratory course to accompany Milling Science I (GRSC 500). Laboratory exercises in wheat flour milling with full-scale equipment including grain storage, blending, cleaning, conditioning plant, and a modern pneumatic flour mill, with instrumentation and automation. Note: Six hours lab a week. Requisites: GRSC 500 or concurrent enrollment. MSM majors have to take GRSC 500 and GRSC 501 concurrently.

RATIONALE: A new laboratory course to complement GRSC 500 lectures. This course has the same content as the lab component of the former GRSC 500. This split will provide flexibility in department's teaching assignments.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: GRSC 511 – Feed Technology I Laboratory (1) Fall. A laboratory course to accompany Feed Technology I (GRSC 510). Laboratory exercises in formula feed manufacturing, principles of conveying, grinding, mixing, pelleting, and other processing techniques; formulation of concentrates, premixes, and rations. Note: Three hours lab a week. Requisites: GRSC 510 or concurrent enrollment. FSM majors have to take GRSC 510 and GRSC 511 concurrently.

RATIONALE: A new laboratory course to complement GRSC 510 lectures. This course has the same content as the lab component of the former GRSC 510. This split will provide flexibility in department's teaching assignments.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: GRSC 545 – Grain Drying, Storage, Aeration and Pest Management (3) Fall, Spring, Summer. Introduction to the scientific principles and engineering practices required for the successful management of post-harvest quality grains. This course is only available to distance education students; it is not available to on-campus students. Note: This course is offered as a distance education course only, and it is only available to distance education students. Requisites: Recommended prerequisite: GRSC 310

RATIONALE: This course is being offered as a counterpart to ATM 545 in order for students interested in the Grain Handling Operations Stand Alone Minor to complete all requested courses by distance.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: GRSC 150 - Principles of Milling
Credits: (3)
Introduction to grain and feed milling processes.
Note
Two hours lecture ~~and three hours lab~~ a week.
Requisites

Recommended prerequisite: MATH 100 or concurrent enrollment.
When Offered Fall, Spring
UGE course No
K-State 8 None

TO: GRSC 150 - Principles of Milling
Credits: (2)
Introduction to grain and feed milling processes.
Note
Two hours lecture a week.
Requisites
Recommended prerequisite: MATH 100 or concurrent enrollment.
When Offered Fall, Spring
UGE course No
K-State 8 None

RATIONALE: The lecture and lab components of this course are divided into two separate courses (GRSC 150 and 151). Thus the credit hour will change from 3 to 2. This split will provide flexibility in department's teaching assignments and also flexibly in course capacity as the lab capacities are more limiting than lecture capacity.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: GRSC 405 - Grain Analysis Techniques
Credits: (2)
Principles and instrumentation available for testing cereal and other grains and their food and feed products.
Note
Two hours lecture a week.
Requisites
Recommended prerequisite: CHEM 230, BIOCH 265 and STAT 325.
When Offered Spring
UGE course No
K-State 8 None

TO: GRSC 405 - Grain Analysis Techniques
Credits: (2)
Principles and instrumentation available for testing cereal and other grains and their food and feed products.
Note
Two hours lecture a week.
Requisites
Recommended prerequisite: CHEM 230, BIOCH 265 or CHM 350 and 351, and STAT 325.

When Offered	Spring
UGE course	No
K-State 8	None

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: GRSC 500 – Milling Science I
Credits: (4)
Principles and practices of wheat flour milling with full-scale equipment including grain storage, blending, cleaning, conditioning plant, and a modern pneumatic ~~525 hundred weight~~ flour mill, with instrumentation and automation, etc.
Note
Two hours lecture ~~and six hours lab a week.~~
Requisites
Recommended prerequisite: A course in physics.
Prerequisite: GRSC 150 and GRSC 210, or consent of instructor.
When Offered Spring
UGE course No
K-State 8 None

TO: GRSC 500 – Milling Science I
Credits: (2)
Principles and practices of wheat flour milling with full-scale equipment including grain storage, blending, cleaning, conditioning plant, and a modern pneumatic flour mill, with instrumentation and automation, etc.
Note
Two hours lecture.
Requisites
Recommended prerequisite: A course in physics.
Prerequisite: GRSC 150 and GRSC 210, or consent of instructor.
When Offered Spring
UGE course No
K-State 8 None

RATIONALE: The lecture and lab components of this course are divided into two separate courses (GRSC 500 and 501). Thus the credit hour will change from 4 to 2. This split will provide flexibility in department's teaching assignments. The proposed change also involves a minor wordsmithing in course description.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: GRSC 510 - Feed Technology I
Credits: (4)
Introduction to formula feed manufacturing, including principles of conveying, grinding, mixing, pelleting, and other processing techniques, the formulation of concentrates, premixes, and rations ~~using a digital computer~~.
Note
Three hours lecture ~~and three hours lab~~ a week.
Requisites
Recommended prerequisite: ASI 318 and GRSC ~~410~~.
When Offered ~~Spring~~
UGE course No
K-State 8 None

TO: GRSC 510 - Feed Technology I
Credits: (3)
Introduction to formula feed manufacturing, including principles of conveying, grinding, mixing, pelleting, and other processing techniques, the formulation of concentrates, premixes, and rations.
Note
Three hours lecture a week.
Requisites
Recommended prerequisite: ASI 318 and GRSC 210.
When Offered Fall
UGE course No
K-State 8 None

RATIONALE: The lecture and lab components of this course are divided into two separate courses (GRSC 510 and 511). Thus the credit hour will change from 4 to 3. This split will provide flexibility in department's teaching assignments. The proposed change also involves a minor wordsmithing in course description.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

UNDERGRADUATE CURRICULUM CHANGES

Undergraduate Curriculum Changes

Food Science and Industry

B.S. in Food Science and Industry
Business & Operations Management Option

FROM:

TO:

<p>GENERAL COURSES (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) Additional communications course (2-3)</p> <p>SOCIAL SCIENCES & HUMANITIES (12 credit hours) ECON 110 - Principles of Macroeconomics (3) Select 9 hours Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120- ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221- Environmental Geography I and GEOG 321- Environmental Geography II History – any course Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women’s Studies(3)</p> <p>BIOLOGICAL SCIENCES (8 credit hours) BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)</p> <p>QUANTITATIVE STUDIES (9 credit hours) MATH 100 - College Algebra (3) MATH 205 - General Calculus and Linear Algebra (3) STAT 350 - Business and Economic Statistics I (3)</p> <p>PHYSICAL SCIENCES (13 credit hours) BIOCH 265 - Introductory Organic and Biochemistry (5) CHM 210 - Chemistry I (4)</p>	<p>GENERAL COURSES (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) Additional communications course (2-3)</p> <p>SOCIAL SCIENCES & HUMANITIES (12 credit hours) ECON 110 - Principles of Macroeconomics (3) Select 9 hours Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120- ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women’s Studies (3)</p> <p>BIOLOGICAL SCIENCES (8 credit hours) BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)</p> <p>QUANTITATIVE STUDIES (9 credit hours) MATH 100 - College Algebra (3) MATH 205 - General Calculus and Linear Algebra (3) STAT 350 - Business and Economic Statistics I (3)</p> <p>PHYSICAL SCIENCES (13 credit hours) BIOCH 265 - Introductory Organic and Biochemistry (5) CHM 210 - Chemistry I (4)</p>
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<p>CHM 230 - Chemistry II (4)</p> <p>CORE FOOD SCIENCE COURSES (22-24 credit hours)</p> <p>Must have 2.0 GPA average.</p> <p>FDSCI 302 - Introduction to Food Science (3)</p> <p>FDSCI 305 - Fundamentals of Food Processing (3)</p> <p>FDSCI 500 - Food Science Seminar (1)</p> <p>FDSCI 607 - Food Microbiology (4)</p> <p>FDSCI 690 - Principles of HACCP (2)</p> <p>HN 132 - Basic Nutrition (3)</p> <p>Select One</p> <p>FDSCI 695 - Quality Assurance of Food Products (3)</p> <p>or</p> <p>FDSCI 740 - Research and Development of Food Products (4)</p> <p>Select One</p> <p>FDSCI 501 - Food Chemistry (3)</p> <p>or</p> <p>HN 413 - Science of Food (4)</p> <p>PROFESSIONAL ELECTIVES (25 credit hours)</p> <p>Must have 3 processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables.</p> <p>Other professional electives can be substituted as appropriate.</p> <p>Food Science Electives</p> <p>AGEC 120 – Ag Econ & Agribusiness (3)</p> <p>ECON 120- Prin Micro Economics (3)</p> <p>AGRON 335 - Environmental Quality (3)</p> <p>ASI 303 - History and Attitudes of Animal Use (3)</p> <p>ASI 310 – Poultry and Poultry Product Evaluation (2)</p> <p>ASI 315 - Livestock and Meat Evaluation (3)</p> <p>ASI 490 – Microcomputer Applications in Animal Sciences and Industry (3)</p> <p>ASI 500 - Genetics (3)</p> <p>ASI 533 - Anatomy and Physiology (4)</p> <p>ASI 595 - Contemporary Issues in Animal Science and Agriculture (3)</p> <p>ASI 640 – Poultry Products Technology (3)</p> <p>ASI 645 - Poultry Management (3)</p> <p>ASI 660 – International Experience in ASI (3)</p> <p>BIOL 350 – Public Health Biology (3)</p> <p>FDSCI 430 - Food Products Evaluation (3)</p> <p>FDSCI 603 - Food Science Internship (1-6)</p> <p>FDSCI 630 - Food Science Problems (Variable)</p> <p>FDSCI 713 - Rapid Methods and Automation in Microbiology (2)</p> <p>FDSCI 731 – Food Prot and Def:Essential Concepts (2)</p> <p>FDSCI 791 - Advanced Application of HACCP Principles (3)</p> <p>GENAG 711 – Occupational & Ag Health (3)</p> <p>GENAG 721 – Occupational & Ag Safety & Health (3)</p> <p>GRSC 651 - Food and Feed Product Protection (4)</p>	<p>CHM 230 - Chemistry II (4)</p> <p>CORE FOOD SCIENCE COURSES (22-24 credit hours)</p> <p>Must have 2.0 GPA average.</p> <p>FDSCI 302 - Introduction to Food Science (3)</p> <p>FDSCI 305 - Fundamentals of Food Processing (3)</p> <p>FDSCI 500 - Food Science Seminar (1)</p> <p><u>FDSCI 600 – Food Microbiology (2)</u></p> <p><u>FDSCI 601 – Food Microbiology Lab (2)</u></p> <p>FDSCI 690 - Principles of HACCP (2)</p> <p>HN 132 - Basic Nutrition (3)</p> <p>Select One</p> <p>FDSCI 695 - Quality Assurance of Food Products (3)</p> <p>or</p> <p>FDSCI 740 - Research and Development of Food Products (4)</p> <p>Select One</p> <p>FDSCI 501 - Food Chemistry (3)</p> <p>or</p> <p>HN 413 - Science of Food (4)</p> <p>PROFESSIONAL ELECTIVES (25 credit hours)</p> <p>Must have 3 processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables.</p> <p>Other professional electives can be substituted as appropriate.</p> <p>Food Science Electives</p> <p>AGEC 120 – Ag Econ & Agribusiness (3)</p> <p>ECON 120- Prin Micro Economics (3)</p> <p>AGRON 335 - Environmental Quality (3)</p> <p>ASI 303 - History and Attitudes of Animal Use (3)</p> <p>ASI 315 - Livestock and Meat Evaluation (3)</p> <p>ASI 500 - Genetics (3)</p> <p>ASI 533 - Anatomy and Physiology (4)</p> <p>ASI 595 - Contemporary Issues in Animal Science and Agriculture (3)</p> <p>ASI 645 - Poultry Management (3)</p> <p>ASI 660 – International Experience in ASI (3)</p> <p>BIOL 350 – Public Health Biology (3)</p> <p>FDSCI 430 - Food Products Evaluation (3)</p> <p>FDSCI 603 - Food Science Internship (1-6)</p> <p>FDSCI 630 - Food Science Problems (Variable)</p> <p><u>FDSCI 710 – Kosher & Halal Food Regulations (2)</u></p> <p>FDSCI 713 - Rapid Methods and Automation in Microbiology (2)</p> <p><u>FDSCI 730 – A Multidisciplinary Overview of Food Safety and Security (2)</u></p> <p>FDSCI 731 – Food Prot and Def:Essential Concepts (2)</p> <p>FDSCI 791 - Advanced Application of HACCP Principles (3)</p> <p><u>GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (3)</u></p> <p>GENAG 711 – Occupational & Ag Health (3)</p> <p>GENAG 721 – Occupational & Ag Safety & Health (3)</p>
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<p>GRSC 661 - Qualities of Food and Feed Ingredients (3) HN 301 - Food Trends, Legislation, and Regulation (3) HN 352 - Personal Wellness (3) HN 701 - Sensory Analysis (3) HMD 220 – Environmental Issues in Hospitality(3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) PHYS 113 – General Physics I (4) PHYS 114 – General Physics II (4) STAT 341 - Biometrics II (3) STAT 351 – Business & Econ Stat II (3) Communications Any foreign language Completion of ASI 495 Advanced Meat Evaluation AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods(3) COMM 535 - Communication and Leadership (3) ENGL 300 - Expository Writing III (3) ENGL 516 - Written Communication for the Sciences (3) HMD 443 – Food Writing (3) MC 110 - Mass Communication in Society (3) MC 120 - Principles of Advertising (3) MC 180 - Fundamentals of Public Relations (3) SOCWK 612 – Fund Comm for Ag & Food Sci (3) Technology Electives ASI 490 - Microcomputer Applications in Animal Sciences and Industry (3) ATM 160 - Engineered Systems and Technology in Agriculture (3) ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3) CIS 101 - Introduction to Computing Systems, Information Search, and Security (1) CIS 102 - Introduction to Spreadsheet Applications (1) CIS 103 - Introduction to Database Applications(1) CIS 104 - Introduction to Word Processing Applications (1) CIS 105 - Introduction to Computer Programming (1) GRSC 540 - Engineering Applications to Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) Processing Electives ASI 310 - Poultry and Poultry Product Evaluation</p>	<p>GRSC 651 - Food and Feed Product Protection (4) GRSC 661 - Qualities of Food and Feed Ingredients (3) HN 301 - Food Trends, Legislation, and Regulation (3) HN 352 - Personal Wellness (3) HN 701 - Sensory Analysis (3) HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) <u>HORT 780 – Health Promoting Phytochemicals:Fruits and Vegetables (2)</u> PHYS 113 – General Physics I (4) PHYS 114 – General Physics II (4) STAT 341 - Biometrics II (3) STAT 351 – Business & Econ Stat II (3) Communications Any foreign language Completion of ASI 495 Advanced Meat Evaluation AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 300 - Expository Writing III (3) ENGL 516 - Written Communication for the Sciences (3) HMD 443 – Food Writing (3) MC 110 - Mass Communication in Society (3) MC 112 – <u>Web Communications in Society (3)</u> MC 120 - Principles of Advertising (3) MC 180 - Fundamentals of Public Relations (3) SOCWK 612 – Fund Comm for Ag & Food Sci (3) Technology Electives ASI 290 - Microcomputer Applications in Animal Sciences and Industry (3) ATM 160 - Engineered Systems and Technology in Agriculture (3) ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3) CIS 101 - Introduction to Computing Systems, Information Search, and Security (1) CIS 102 - Introduction to Spreadsheet Applications (1) CIS 103 - Introduction to Database Applications (1) CIS 104 - Introduction to Word Processing Applications (1) CIS 105 - Introduction to Computer Programming (1) GRSC 540 - Engineering Applications to</p>
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<p>(2) ASI 350 - Meat Science (3) ASI 361 - Meat Animal Processing (2) ASI 370 - Principles of Meat Evaluation (2) ASI 405 - Fundamentals of Milk Processing (3) ASI 495 - Advanced Meat Evaluation (2) ASI 608 - Dairy Foods Processing & Technology (3) ASI 610 - Processed Meat Operations (2) ASI 640 - Poultry Products Technology (3) ASI 671 - Meat Selection and Utilization (2) ASI 777 - Meat Technology (3) FDSCI 660 - International Study Experience in Food Science (0-6) GRSC 101 - Introduction to Grain Science and Industry (3) GRSC 150 - Principles of Milling (3) GRSC 405 - Grain Analysis Techniques (2) GRSC 602 - Cereal Science (3) GRSC 625 - Flour and Dough Testing (3) GRSC 635 - Baking Science I (2) GRSC 636 - Baking Science I Laboratory (2) GRSC 637 - Baking Science II (3) GRSC 638 - Baking Science II Laboratory (1) HORT 325 – Introduction to Organic Farming (2) Business, Management & Economics Electives Courses used to fulfill the 15 credit hours of business/management & economics electives cannot be used for professional elective requirements. ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) AGEC 202 – Small Business Operations (3) AGEC 220 – Grain and Livestock Marketing 3 AGEC 308 - Farm and Ranch Management (3) AGEC 318 - Food and Agribusiness Management (3) AGEC 410 - Agricultural Policy (3) AGEC 415 – The Global Agricultural Economy, Hunger, and Poverty (3) AGEC 420 - Commodity Futures (3) AGEC 500 – Production Economics (3) AGEC 505 - Agricultural Market Structures (3) AGEC 513 – Agriculture Finance (3) AGEC 515 - Food and Agribusiness Marketing (3) AGEC 516 - Agricultural Law and Economics (3) AGEC 520 - Market Fundamentals and Futures/Options Trading (3) AGEC 570 - Food Manufacturing, Distribution and Retailing (3) AGEC 599 - Food and Agribusiness Management Strategies (3) AGEC 605 - Price Analysis and Forecasting (3) AGEC 623 - International Agricultural Trade (3) AGEC 632 - Agribusiness Logistics (3) AGEC 680 - Risk Management (3)</p>	<p>Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) Processing Electives ASI 310 - Poultry and Poultry Product Evaluation (2) ASI 350 - Meat Science (3) ASI 361 - Meat Animal Processing (2) ASI 370 - Principles of Meat Evaluation (2) ASI 405 - Fundamentals of Milk Processing (3) ASI 495 - Advanced Meat Evaluation (2) ASI 608 - Dairy Foods Processing & Technology (3) ASI 610 - Processed Meat Operations (2) ASI 640 - Poultry Products Technology (3) ASI 671 - Meat Selection and Utilization (2) ASI 777 - Meat Technology (3) FDSCI 660 - International Study Experience in Food Science (0-6) GRSC 101 - Introduction to Grain Science and Industry (3) GRSC 150 - Principles of Milling (3) GRSC 405 - Grain Analysis Techniques (2) GRSC 602 - Cereal Science (3) GRSC 625 - Flour and Dough Testing (3) GRSC 635 - Baking Science I (2) GRSC 636 - Baking Science I Laboratory (2) GRSC 637 - Baking Science II (3) GRSC 638 - Baking Science II Laboratory (1) HORT 325 – Introduction to Organic Farming (2) Business, Management & Economics Electives Courses used to fulfill the 15 credit hours of business/management & economics electives cannot be used for professional elective requirements. ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) AGEC 202 – Small Business Operations (3) AGEC 220 – Grain and Livestock Marketing 3 AGEC 308 - Farm and Ranch Management (3) <u>AGEC 315 – Contemporary Issues in Global Food and Agriculture (3)</u> AGEC 318 - Food and Agribusiness Management (3) AGEC 410 - Agricultural Policy (3) AGEC 420 - Commodity Futures (3) AGEC 500 – Production Economics (3) AGEC 505 - Agricultural Market Structures (3) AGEC 513 – Agriculture Finance (3) AGEC 515 - Food and Agribusiness Marketing (3) AGEC 516 - Agricultural Law and Economics (3) AGEC 520 - Market Fundamentals and Futures/Options Trading (3) AGEC 570 - Food Manufacturing, Distribution and Retailing (3)</p>
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<p>ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) FINAN 450 - Principles of Finance (3) MANGT 300 - Introduction to Total Quality Management (1) MANGT 366 - Information Technology for Business (3) MANGT 390 - Business Law I (3) MANGT 420 - Management Concepts (3) MANGT 421 - Introduction to Operations Management (3) MANGT 530 - Industrial and Labor Relations (3) MANGT 531 - Human Resources Management (3) MKTG 400 - Introduction to Marketing (3) MKTG 450 - Consumer Behavior (3) MKTG 541 - Retailing (3) MKTG 542 - Professional Selling and Sales Management (3)</p> <p>BUSINESS, MANAGEMENT & ECONOMICS Select 15 credits from the business courses listed above. Students are strongly encouraged to complete a minor in either Business Administration, Agricultural Economics or Agricultural Business.</p> <p>UNRESTRICTED ELECTIVES (7-12 credit hours) Total hours required for graduation (126 credit hours)</p>	<p>AGEC 599 - Food and Agribusiness Management Strategies (3) AGEC 605 - Price Analysis and Forecasting (3) AGEC 623 - International Agricultural Trade (3) AGEC 632 - Agribusiness Logistics (3) AGEC 680 - Risk Management (3) ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) FINAN 450 - Principles of Finance (3) MANGT 300 - Introduction to Total Quality Management (1) MANGT 366 - Information Technology for Business (3) MANGT 390 - Business Law I (3) MANGT 420 - Management Concepts (3) MANGT 421 - Introduction to Operations Management (3) MANGT 530 - Industrial and Labor Relations (3) MANGT 531 - Human Resources Management (3) MKTG 400 - Introduction to Marketing (3) MKTG 450 - Consumer Behavior (3) MKTG 541 - Retailing (3) MKTG 542 - Professional Selling and Sales Management (3)</p> <p>BUSINESS, MANAGEMENT & ECONOMICS Select 15 credits from the business courses listed above. Students are strongly encouraged to complete a minor in either Business Administration, Agricultural Economics or Agricultural Business.</p> <p>UNRESTRICTED ELECTIVES (7-12 credit hours) Total hours required for graduation (126 credit hours)</p>
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RATIONALE:

We are requesting two types of curriculum changes to the restricted electives for the FDSCI Business & Operations Management Option. The first change is to remove, add, or recategorize courses under different subcategories within the professional electives block. Courses being removed are no longer offered, are no longer taken by FDSCI students, or are already listed under a different category in the curriculum. Courses added to the professional electives block are newer courses that were not available previously, courses commonly used as variances, or courses with significant relevance to FDSCI program.

We are also requesting that upon approval of changing the required course *FDSCI 607, Food Microbiology*, to 2 courses, *FDSCI 600, Food Microbiology*, and *FDSCI 601, Food Microbiology Lab*, that the new courses replace FDSCI 607 in the “Core Food Science” block.

IMPACT:

This proposal is expected to have minimal impact on courses taken by FDSCI students. Since removed courses were not being taken and recategorized courses remain in the professional electives block, we expect no change in the status of these courses. For courses added to the curriculum, we would anticipate a potential increase of 0-2 students per year as these courses are part of a larger professional electives block. This proposal has been shared with ASI, AGECE,

GENAG, HORT, and MC and we have received written (email) approval and support of these changes from Department Heads and/or Teaching Coordinators of their respective programs.

EFFECTIVE DATE: Fall 2013

B.S. in Food Science and Industry
Science Option

FROM:

TO:

<p>General Courses (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) Additional communications course (2-3)</p> <p>Social Sciences and Humanities (12 credit hours) ECON 110 - Principles of Macroeconomics (3)</p> <p>Humanities/social sciences courses Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women’s Studies(3)</p> <p>Quantitative Studies (13 credit hours) MATH 100 - College Algebra (3) MATH 220 - Analytic Geometry and Calculus I(4)</p> <p>Select One STAT 325 - Introduction to Statistics (3) or STAT 340 - Biometrics I (3) or STAT 350 - Business and Economic Statistics I (3)</p> <p>Select One STAT 341 - Biometrics II (3) or STAT 351 - Business and Economic Statistics II(3)</p>	<p>General Courses (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) Additional communications course (2-3)</p> <p>Social Sciences and Humanities (12 credit hours) ECON 110 - Principles of Macroeconomics (3)</p> <p>Humanities/social sciences courses Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women’s Studies (3)</p> <p>Quantitative Studies (13 credit hours) MATH 100 - College Algebra (3) MATH 220 - Analytic Geometry and Calculus I (4)</p> <p>Select One STAT 325 - Introduction to Statistics (3) or STAT 340 - Biometrics I (3) or STAT 350 - Business and Economic Statistics I (3)</p> <p>Select One STAT 341 - Biometrics II (3) or STAT 351 - Business and Economic Statistics II (3)</p>
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<p>Biological Sciences (8 credit hours) BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)</p> <p>Physical Sciences (23 credit hours) BIOCH 521 - General Biochemistry (3) and BIOCH 522 - General Biochemistry Laboratory (2) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4) CHM 350 - General Organic Chemistry (3) and CHM 351 - General Organic Chemistry Laboratory (2) PHYS 115 - Descriptive Physics (5)</p> <p>Core Food Science Courses (30-31 credit hours) Must have 2.0 GPA average. FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 501 - Food Chemistry (3) FDSCI 607 - Food Microbiology (4) FDSCI 690 - Principles of HACCP (2) FDSCI 727 - Chemical Methods of Food Analysis (2) FDSCI 728 - Physical Methods of Food Analysis (2) GRSC 540 - Engineering Applications to Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) HN 132 - Basic Nutrition (3)</p> <p>Select One FDSCI 695 - Quality Assurance of Food Products (3) or FDSCI 740 - Research and Development of Food Products (4)</p> <p>Professional Electives (20 credit hours) Must have 3 processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables. Other professional electives can be substituted as appropriate.</p> <p>Food Science Electives AGRON 335 - Environmental Quality (3) ASI 303 - History and Attitudes of Animal Use (3) ASI 315 - Livestock and Meat Evaluation (3) ASI 500 - Genetics (3) ASI 533 - Anatomy and Physiology (4) ASI 595 - Contemporary Issues in Animal Science and Agriculture (3) ASI 645 - Poultry Management (3) ASI 660 - International Study Experience in Animal Science (0-6) BIOL 330 - Public Health Biology (3) BIOL 340 - Structure and Function of the Human Body (8)</p>	<p>Biological Sciences (8 credit hours) BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)</p> <p>Physical Sciences (23 credit hours) BIOCH 521 - General Biochemistry (3) and BIOCH 522 - General Biochemistry Laboratory (2) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4) CHM 350 - General Organic Chemistry (3) and CHM 351 - General Organic Chemistry Laboratory (2) PHYS 115 - Descriptive Physics (5)</p> <p>Core Food Science Courses (30-31 credit hours) Must have 2.0 GPA average. FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 501 - Food Chemistry (3) <u>FDSCI 600 - Food Microbiology (2)</u> <u>FDSCI 601 - Food Microbiology Lab (2)</u> FDSCI 690 - Principles of HACCP (2) FDSCI 727 - Chemical Methods of Food Analysis (2) FDSCI 728 - Physical Methods of Food Analysis (2) GRSC 540 - Engineering Applications to Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) HN 132 - Basic Nutrition (3)</p> <p>Select One FDSCI 695 - Quality Assurance of Food Products (3) or FDSCI 740 - Research and Development of Food Products (4)</p> <p>Professional Electives (20 credit hours) Must have 3 processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables. Other professional electives can be substituted as appropriate.</p> <p>Food Science Electives AGRON 335 - Environmental Quality (3) ASI 303 - History and Attitudes of Animal Use (3) ASI 315 - Livestock and Meat Evaluation (3) ASI 500 - Genetics (3) ASI 533 - Anatomy and Physiology (4) ASI 595 - Contemporary Issues in Animal Science and Agriculture (3) ASI 645 - Poultry Management (3) ASI 660 - International Study Experience in Animal Science (0-6) BIOL 330 - Public Health Biology (3) BIOL 340 - Structure and Function of the Human Body (8)</p>
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<p> BIOL 450 - Modern Genetics (4) BIOL 530 – Pathogenic Microbiology (3) BIOL 541 - Cell Biology (3) BIOL 690 – Microbial Physiology & Metabolism (2) CHM 550 - Organic Chemistry II (3) CHM 551 - Advanced Organic Laboratory (2) FDSCI 430 - Food Products Evaluation (3) FDSCI 603 - Food Science Internship (1-6) FDSCI 630 - Food Science Problems (Variable) FDSCI 713 - Rapid Methods and Automation in Microbiology (2) FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2) FDSCI 731 – Food Prot and Def: Essential Concepts (3) FDSCI 791 - Advanced Application of HACCP Principles (3) GENAG 505 - Comparative Agriculture (1-4) GENAG 711 – Occupational & Ag Health (3) GENAG 721 Occupational & Ag Safety & Health (3) GNHE 310 - Human Needs (3) HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) HN 352 - Personal Wellness (3) HN 400 - Human Nutrition (3) HN 510 - Life Span Nutrition (3) HN 620 - Nutrient Metabolism (3) HN 701 - Sensory Analysis (3) GRSC 651 - Food and Feed Product Protection (4) GRSC 661 - Qualities of Food and Feed Ingredients (3) PHYS 114 - General Physics II (4) </p> <p>Communications</p> <p> Any foreign language Completion of ASI 495 Advanced Meat Evaluation AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods(3) COMM 535 - Communication and Leadership (3) ENGL 300 - Expository Writing III (3) ENGL 516 - Written Communication for the Sciences (3) HMD 443 – Food Writing(3) MC 110 - Mass Communication in Society (3) MC 120 - Principles of Advertising (3) MC 180 - Fundamentals of Public Relations (3) </p>	<p> BIOL 450 - Modern Genetics (4) BIOL 530 – Pathogenic Microbiology (3) BIOL 541 - Cell Biology (3) BIOL 690 – Microbial Physiology & Metabolism (2) CHM 550 - Organic Chemistry II (3) CHM 551 - Advanced Organic Laboratory (2) FDSCI 430 - Food Products Evaluation (3) FDSCI 603 - Food Science Internship (1-6) FDSCI 630 - Food Science Problems (Variable) <u>FDSCI 710 – Kosher & Halal Food Regulations (2)</u> FDSCI 713 - Rapid Methods and Automation in Microbiology (2) FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2) FDSCI 731 – Food Prot and Def: Essential Concepts (3) FDSCI 791 - Advanced Application of HACCP Principles (3) <u>GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (2)</u> GENAG 505 - Comparative Agriculture (1-4) GENAG 711 – Occupational & Ag Health (3) GENAG 721 Occupational & Ag Safety & Health (3) GNHE 310 - Human Needs (3) HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) HN 352 - Personal Wellness (3) HN 400 - Human Nutrition (3) HN 510 - Life Span Nutrition (3) HN 620 - Nutrient Metabolism (3) HN 701 - Sensory Analysis (3) <u>HORT 780 – Health-Promoting Phytochemicals:Fruits and Vegetables (2)</u> GRSC 651 - Food and Feed Product Protection (4) GRSC 661 - Qualities of Food and Feed Ingredients (3) PHYS 114 - General Physics II (4) </p> <p>Communications</p> <p> Any foreign language Completion of ASI 495 Advanced Meat Evaluation AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 300 - Expository Writing III (3) ENGL 516 - Written Communication for the Sciences (3) </p>
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<p>SOCWK 612 – Fund Comm for Ag & Food Sci (3)</p> <p>Technology Electives</p> <p>ASI 490 - Microcomputer Applications in Animal Sciences and Industry (3)</p> <p>ATM 160 - Engineered Systems and Technology in Agriculture (3)</p> <p>ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3)</p> <p>CIS 101 - Introduction to Computing Systems, Information Search, and Security (1)</p> <p>CIS 102 - Introduction to Spreadsheet Applications (1)</p> <p>CIS 103 - Introduction to Database Applications(1)</p> <p>CIS 104 - Introduction to Word Processing Applications (1)</p> <p>CIS 105 - Introduction to Computer Programming (1)</p> <p>Processing Electives</p> <p>ASI 310 - Poultry and Poultry Product Evaluation (2)</p> <p>ASI 350 - Meat Science (3)</p> <p>ASI 361 - Meat Animal Processing (2)</p> <p>ASI 370 - Principles of Meat Evaluation (2)</p> <p>ASI 405 - Fundamentals of Milk Processing (3)</p> <p>ASI 495 - Advanced Meat Evaluation (2)</p> <p>ASI 608 - Dairy Foods Processing & Technology (3)</p> <p>ASI 610 - Processed Meat Operations (2)</p> <p>ASI 640 - Poultry Products Technology (3)</p> <p>ASI 671 - Meat Selection and Utilization (2)</p> <p>ASI 777 - Meat Technology (3)</p> <p>FDSCI 660 - International Study Experience in Food Science (0-6)</p> <p>GRSC 101 - Introduction to Grain Science and Industry (3)</p> <p>GRSC 150 - Principles of Milling (3)</p> <p>GRSC 405 - Grain Analysis Techniques (2)</p> <p>GRSC 602 - Cereal Science (3)</p> <p>GRSC 625 - Flour and Dough Testing (3)</p> <p>GRSC 635 - Baking Science I (2)</p> <p>GRSC 636 - Baking Science I Laboratory (2)</p> <p>GRSC 637 - Baking Science II (3)</p> <p>GRSC 638 - Baking Science II Laboratory (1)</p> <p>HORT 325 – Introduction to Organic Farming (3)</p> <p>Business, Management & Economics Electives</p> <p>ACCTG 231 - Accounting for Business Operations (3)</p> <p>ACCTG 241 - Accounting for Investing and Financing (3)</p> <p>AGEC 120 - Agricultural Economics and Agribusiness (3)</p> <p>AGEC 202 – Small Business Ops (3)</p> <p>AGEC 220 – Grain and Livestock Marketing 3</p> <p>AGEC 308 - Farm and Ranch Management (3)</p> <p>AGEC 318 - Food and Agribusiness Management (3)</p> <p>AGEC 410 - Agricultural Policy (3)</p>	<p>HMD 443 – Food Writing (3)</p> <p>MC 110 - Mass Communication in Society (3)</p> <p><u>MC 112 – Web Communication in Society (3)</u></p> <p>MC 120 - Principles of Advertising (3)</p> <p>MC 180 - Fundamentals of Public Relations (3)</p> <p>SOCWK 612 – Fund Comm for Ag & Food Sci (3)</p> <p>Technology Electives</p> <p>ASI <u>290</u> - Microcomputer Applications in Animal Sciences and Industry (3)</p> <p>ATM 160 - Engineered Systems and Technology in Agriculture (3)</p> <p>ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3)</p> <p>CIS 101 - Introduction to Computing Systems, Information Search, and Security (1)</p> <p>CIS 102 - Introduction to Spreadsheet Applications (1)</p> <p>CIS 103 - Introduction to Database Applications (1)</p> <p>CIS 104 - Introduction to Word Processing Applications (1)</p> <p>CIS 105 - Introduction to Computer Programming (1)</p> <p>Processing Electives</p> <p>ASI 310 - Poultry and Poultry Product Evaluation (2)</p> <p>ASI 350 - Meat Science (3)</p> <p>ASI 361 - Meat Animal Processing (2)</p> <p>ASI 370 - Principles of Meat Evaluation (2)</p> <p>ASI 405 - Fundamentals of Milk Processing (3)</p> <p>ASI 495 - Advanced Meat Evaluation (2)</p> <p>ASI 608 - Dairy Foods Processing & Technology (3)</p> <p>ASI 610 - Processed Meat Operations (2)</p> <p>ASI 640 - Poultry Products Technology (3)</p> <p>ASI 671 - Meat Selection and Utilization (2)</p> <p>ASI 777 - Meat Technology (3)</p> <p>FDSCI 660 - International Study Experience in Food Science (0-6)</p> <p>GRSC 101 - Introduction to Grain Science and Industry (3)</p> <p>GRSC 150 - Principles of Milling (3)</p> <p>GRSC 405 - Grain Analysis Techniques (2)</p> <p>GRSC 602 - Cereal Science (3)</p> <p>GRSC 625 - Flour and Dough Testing (3)</p> <p>GRSC 635 - Baking Science I (2)</p> <p>GRSC 636 - Baking Science I Laboratory (2)</p> <p>GRSC 637 - Baking Science II (3)</p> <p>GRSC 638 - Baking Science II Laboratory (1)</p> <p>HORT 325 – Introduction to Organic Farming (3)</p> <p>Business, Management & Economics Electives</p> <p>ACCTG 231 - Accounting for Business Operations (3)</p> <p>ACCTG 241 - Accounting for Investing and Financing (3)</p> <p>AGEC 120 - Agricultural Economics and Agribusiness (3)</p> <p>AGEC 202 – Small Business Ops (3)</p> <p>AGEC 220 – Grain and Livestock Marketing 3</p>
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We are requesting two types of curriculum changes to the restricted electives for the FDSCI Science Option. The first change is to remove, add, or recategorize courses under different subcategories within the professional electives block. Courses being removed are no longer offered, are no longer taken by FDSCI students, or are already listed under a different category in the curriculum.

Courses added to the professional electives block are newer courses that were not available previously, courses commonly used as variances, or courses with significant relevance to FDSCI program.

We are also requesting that upon approval of changing the required course *FDSCI 607, Food Microbiology*, to 2 courses, *FDSCI 600, Food Microbiology*, and *FDSCI 601, Food Microbiology Lab*, that the new courses replace FDSCI 607 in the “Core Food Science” block.

IMPACT: This proposal is expected to have minimal impact on courses taken by FDSCI students. Since removed courses were not being taken and recategorized courses remain in the professional electives block, we expect no change in the status of these courses. For courses added to the curriculum, we would anticipate a potential increase of 0-2 students per year as these courses are part of a larger professional electives block. This proposal has been shared with ASI, AGEC, GENAG, HORT, and MC and we have received written (email) approval and support of these changes from Department Heads and/or Teaching Coordinators of their respective programs.

EFFECTIVE DATE: Fall 2013

Grain Science and Industry

B.S. in Bakery Science and Management
Cereal Chemistry Option

FROM:

TO:

BSM - Cereal Chemistry Option	BSM - Cereal Chemistry Option
General Requirements:	General Requirements:
ACCTG 231 Accounting for Business Operations (3)	ACCTG 231 Accounting for Business Operations (3)
BIOCH 521 General Biochemistry (3)	BIOCH 521 General Biochemistry (3)
BIOCH 522 General Biochemistry Laboratory (2)	BIOCH 522 General Biochemistry Laboratory (2)
BIOL 198 Principles of Biology (4)	BIOL 198 Principles of Biology (4)
BIOL 455 General Microbiology (4)	BIOL 455 General Microbiology (4)
CHM 210 Chemistry I (4)	CHM 210 Chemistry I (4)
CHM 230 Chemistry II (4)	CHM 230 Chemistry II (4)
CHM 371 Chemical Analysis (4)	
CHM 500 General Physical Chemistry (3)	CHM 500 General Physical Chemistry (3)
CHM 531 Organic Chemistry I (3)	CHM 531 Organic Chemistry I (3)
CHM 532 Organic Chemistry Laboratory (2)	CHM 532 Organic Chemistry Laboratory (2)

CHM 550 Organic Chemistry II (3)	CHM 550 Organic Chemistry II (3)
COMM 105 Public Speaking IA (2)	COMM 105 Public Speaking IA (2)
AGCOM 400 Agricultural Business Communications (3) or ENGL 516 Written Communication for the Sciences (3)	AGCOM 400 Agricultural Business Communications (3) or ENGL 516 Written Communication for the Sciences (3)
ECON 110 Principles of Macroeconomics (3)	ECON 110 Principles of Macroeconomics (3)
ENGL 100 Expository Writing I (3)	ENGL 100 Expository Writing I (3)
ENGL 200 Expository Writing II (3)	ENGL 200 Expository Writing II (3)
FDSCI 501 Food Chemistry (3)	FDSCI 501 Food Chemistry (3)
FDSCI 607 Food Microbiology (4)	FDSCI 607 Food Microbiology (4)
FDSCI 727 Chemical Methods of Food Analysis (2)	FDSCI 727 Chemical Methods of Food Analysis (2)
GENAG 101 Ag Orientation (1)	<u>GRSC 100 Grain Science and Industry Orientation (1)</u>
GRSC 101 Introduction to Grain Science and Industry (3)	GRSC 101 Introduction to Grain Science and Industry (3)
GRSC 150 Principles of Milling (3)	GRSC 150 Principles of Milling (2)
	<u>GRSC 151 Principles of Milling Laboratory (1)</u>
GRSC 310 Materials Handling (3)	GRSC 310 Materials Handling (3)
GRSC 591 Commercial Feed and Food Manufacturing Internship (2)	GRSC 591 Commercial Feed and Food Manufacturing Internship (2)
GRSC 601 Practicum in Bakery Technology (1)	GRSC 601 Practicum in Bakery Technology (1)
GRSC 601 Practicum in Bakery Technology (1)	GRSC 601 Practicum in Bakery Technology (1)
GRSC 602 Cereal Science (3)	GRSC 602 Cereal Science (3)
GRSC 625 Flour and Dough Testing (3)	GRSC 625 Flour and Dough Testing (3)
GRSC 635 Baking Science I (2)	GRSC 635 Baking Science I (2)
GRSC 636 Baking Science I Laboratory (2)	GRSC 636 Baking Science I Laboratory (2)
GRSC 637 Baking Science II (3)	GRSC 637 Baking Science II (3)
GRSC 638 Baking Science II Laboratory (1)	GRSC 638 Baking Science II Laboratory (1)
GRSC 651 Food and Feed Product Protection (4)	GRSC 651 Food and Feed Product Protection (4)

GRSC 670 Bakery Layout (1)
HN 132 Basic Nutrition (3)
MATH 220 Analytic Geometry and Calculus I (4)
MATH 221 Analytic Geometry and Calculus II (4)
PHYS 213 Engineering Physics I (5)
PHYS 214 Engineering Physics II (5)
STAT 325 Introduction to Statistics (3)
Free Elective (3)
Social Science Elective (3)
Specialization Elective (~~5~~)

Total hours required for graduation: ~~130~~ credit hours

Specialization Electives:

FDSCI 690 Principles of HACCP (2)

GRSC 500 Milling Science I (~~4~~)

GRSC 540 Engineering Applications to Grain/Food Products (3)
GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)
GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)
GRSC 620 Extrusion Processing in the Food and Feed Industries (4)
GRSC 691 Faculty-Led Study Abroad (1-3)
GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)
GRSC 713 Contemporary Chromatographic Analysis

GRSC 670 Bakery Layout (1)
HN 132 Basic Nutrition (3)
MATH 220 Analytic Geometry and Calculus I (4)
MATH 221 Analytic Geometry and Calculus II (4)
PHYS 213 Engineering Physics I (5)
PHYS 214 Engineering Physics II (5)
STAT 325 Introduction to Statistics (3)
Free Elective (3)
Social Science Elective (3)
Specialization Elective (7)

Total hours required for graduation: 128 credit hours

Specialization Electives:

FDSCI 690 Principles of HACCP (2)
GRSC 201 Fundamental Baking Calculations (1)
GRSC 499 Undergraduate Research in Grain Science (0-3)
GRSC 500 Milling Science I (2)
GRSC 501 Milling Science I Laboratory (2)
GRSC 540 Engineering Applications to Grain/Food Products (3)
GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)
GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)
GRSC 620 Extrusion Processing in the Food and Feed Industries (4)
GRSC 691 Faculty-Led Study Abroad (1-3)
GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)
GRSC 713 Contemporary Chromatographic Analysis

of Food (1)

of Food (1)

GRSC 745 Fundamentals of Bioprocessing (3)

GRSC 745 Fundamentals of Bioprocessing (3)

LEAD 212 Introduction to Leadership Concepts (~~3~~)

LEAD 212 Introduction to Leadership Concepts (2)

RATIONALE:

The curriculum is revised to reflect course changes included in CoA Fall 2012 proposal.

List of proposed changes:

- Add GRSC 201 as specialization elective (concurrently proposed as new course)
- Add GRSC 499 as specialization elective (concurrently proposed as new course)
- Drop CHM 371
(approved in Spring 2012 C&C meeting, but did not carry over to the Faculty Senate meeting)
- Drop GENAG 101, add GRSC 100 (concurrently proposed as new course)
- Drop GRSC 150, add GRSC 150 and 151 (concurrently proposed as lab/lecture split course)
- Drop GRSC 500, add GRSC 500 and 501 as specialization elective (concurrently proposed as lab/lecture split course)
- Increase specialization electives from 5 to 7
- Decrease total credit hours from 130 to 128 (same as the BSM-Production Management option)

IMPACT:

No impact on other departments.

EFFECTIVE DATE:

Fall 2013

B.S. in Bakery Science and Management
Production Management Option

FROM:

TO:

BSM - Production Management Option	BSM - Production Management Option
General Requirements:	General Requirements:
ACCTG 231 Accounting for Business Operations (3)	ACCTG 231 Accounting for Business Operations (3)
AGEC 120 Agricultural Economics and Agribusiness (3) or ECON 120 Principles of Microeconomics (3)	AGEC 120 Agricultural Economics and Agribusiness (3) or ECON 120 Principles of Microeconomics (3)
AGRON 400 Undergraduate Topics in Agronomy (1-3) or ENGL 516 Written Communication for the Sciences (3)	AGRON 400 Undergraduate Topics in Agronomy (1-3) or ENGL 516 Written Communication for the Sciences (3)
BIOCH 265 Introductory Organic and Biochemistry (5)	BIOCH 265 Introductory Organic and Biochemistry (5) <u>or</u> <u>CHM 350 General Organic Chemistry (3)</u> <u>and</u> <u>CHM 351 General Organic Chemistry Laboratory (2)</u>
BIOL 198 Principles of Biology (4)	BIOL 198 Principles of Biology (4)
BIOL 455 General Microbiology (4)	BIOL 455 General Microbiology (4)
CHM 210 Chemistry I (4)	CHM 210 Chemistry I (4)
CHM 230 Chemistry II (4)	CHM 230 Chemistry II (4)
COMM 106 Public Speaking I (3)	COMM 106 Public Speaking I (3)
ECON 110 Principles of Macroeconomics (3)	ECON 110 Principles of Macroeconomics (3)
ENGL 100 Expository Writing I (3)	ENGL 100 Expository Writing I (3)
ENGL 200 Expository Writing II (3)	ENGL 200 Expository Writing II (3)
FDSCI 305 Fundamentals of Food Processing (3)	FDSCI 305 Fundamentals of Food Processing (3)
FDSCI 607 Food Microbiology (4)	FDSCI 607 Food Microbiology (4)
GENAG 101 Ag Orientation (1)	<u>GRSC 100 Grain Science and Industry Orientation (1)</u>
GRSC 101 Introduction to Grain Science and Industry (3)	GRSC 101 Introduction to Grain Science and Industry (3)

GRSC 150 Principles of Milling (3)	GRSC 150 Principles of Milling (2)
	<u>GRSC 151 Principles of Milling Laboratory (1)</u>
GRSC 540 Engineering Applications to Grain/Food Products (3)	GRSC 540 Engineering Applications to Grain/Food Products (3)
GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)	GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)
GRSC 591 Commercial Feed and Food Manufacturing Internship (2)	GRSC 591 Commercial Feed and Food Manufacturing Internship (2)
GRSC 601 Practicum in Bakery Technology (1)	GRSC 601 Practicum in Bakery Technology (1)
GRSC 601 Practicum in Bakery Technology (1)	GRSC 601 Practicum in Bakery Technology (1)
GRSC 602 Cereal Science (3)	GRSC 602 Cereal Science (3)
GRSC 625 Flour and Dough Testing (3)	GRSC 625 Flour and Dough Testing (3)
GRSC 630 Management Applications in the Grain Processing Industries (3)	GRSC 630 Management Applications in the Grain Processing Industries (3)
GRSC 635 Baking Science I (2)	GRSC 635 Baking Science I (2)
GRSC 636 Baking Science I Laboratory (2)	GRSC 636 Baking Science I Laboratory (2)
GRSC 637 Baking Science II (3)	GRSC 637 Baking Science II (3)
GRSC 638 Baking Science II Laboratory (1)	GRSC 638 Baking Science II Laboratory (1)
GRSC 651 Food and Feed Product Protection (4)	GRSC 651 Food and Feed Product Protection (4)
GRSC 670 Bakery Layout (1)	GRSC 670 Bakery Layout (1)
HN 132 Basic Nutrition (3)	HN 132 Basic Nutrition (3)
MANGT 420 Management Concepts (3)	MANGT 420 Management Concepts (3)
MATH 205 General Calculus and Linear Algebra (3)	MATH 205 General Calculus and Linear Algebra (3)
PHYS 113 General Physics I (4)	PHYS 113 General Physics I (4)
PHYS 114 General Physics II (4)	PHYS 114 General Physics II (4)
STAT 325 Introduction to Statistics (3)	STAT 325 Introduction to Statistics (3)
Business Electives (9)	Business Electives (9)
Free Electives (8)	Free Electives (8)
Specialization Electives (3)	Specialization Electives (3)
Total hours required for graduation: 128 credit	Total hours required for graduation: 128 credit

hours	hours
Specialization Electives:	Specialization Electives:
FDSCI 690 Principles of HACCP (2)	FDSCI 690 Principles of HACCP (2)
	<u>GRSC 201 Fundamental Baking Calculations (1)</u>
	<u>GRSC 499 Undergraduate Research in Grain Science (0-3)</u>
GRSC 500 Milling Science I (4)	GRSC 500 Milling Science I (2)
	<u>GRSC 501 Milling Science I Laboratory (2)</u>
GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)	GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)
GRSC 620 Extrusion Processing in the Food and Feed Industries (4)	GRSC 620 Extrusion Processing in the Food and Feed Industries (4)
GRSC 691 Faculty-Led Study Abroad (1-3)	GRSC 691 Faculty-Led Study Abroad (1-3)
GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)	GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)
GRSC 713 Contemporary Chromatographic Analysis of Food (1)	GRSC 713 Contemporary Chromatographic Analysis of Food (1)
GRSC 745 Fundamentals of Bioprocessing (3)	GRSC 745 Fundamentals of Bioprocessing (3)
LEAD 212 Introduction to Leadership Concepts (3)	LEAD 212 Introduction to Leadership Concepts (2)
Business Electives (9 hrs required):	Business Electives (9 hrs required):
ACCTG 241 Accounting for Investing and Financing (3)	ACCTG 241 Accounting for Investing and Financing (3)
ACCTG 331 Accounting Processes and Controls (4)	ACCTG 331 Accounting Processes and Controls (4)
AGEC 500 Production Economics (3)	AGEC 500 Production Economics (3)
AGEC 515 Food and Agribusiness Marketing (3)	AGEC 515 Food and Agribusiness Marketing (3)
FINAN 450 Principles of Finance (3)	FINAN 450 Principles of Finance (3)
IMSE 501 Industrial Management (3)	IMSE 501 Industrial Management (3)
MANGT 300 Introduction to Total Quality Management (1)	MANGT 300 Introduction to Total Quality Management (1)
MANGT 530 Industrial and Labor Relations (3)	MANGT 530 Industrial and Labor Relations (3)
MKTG 400 Introduction to Marketing (3)	MKTG 400 Introduction to Marketing (3)

MKTG 542 Professional Selling (3)	MKTG 542 Professional Selling (3)
Additional Business Electives:	Additional Business Electives:
The following courses must be taken as business electives to complete requirements for a Business Minor while completing the Production Management Option:	The following courses must be taken as business electives to complete requirements for a Business Minor while completing the Production Management Option:
ACCTG 241 Accounting for Investing and Financing (3)	ACCTG 241 Accounting for Investing and Financing (3)
FINAN 450 Principles of Finance (3)	FINAN 450 Principles of Finance (3)
MKTG 400 Introduction to Marketing (3)	MKTG 400 Introduction to Marketing (3)

RATIONALE: The curriculum is revised to reflect course changes included in CoA Fall 2012 proposal.

List of proposed changes:

- Add GRSC 201 as specialization elective (concurrently proposed as new course)
- Add GRSC 499 as specialization elective (concurrently proposed as new course)
- Drop GENAG 101, add GRSC 100 (concurrently proposed as new course)
- Drop GRSC 150, add GRSC 150 and 151 (concurrently proposed as lab/lecture split course)
- Drop GRSC 500, add GRSC 500 and 501 as specialization elective (concurrently proposed as lab/lecture split course)

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

**B.S. in Milling Science and Management
Chemistry Option**

FROM:

TO:

MSM - Chemistry Option	MSM –Chemistry Option
General Requirements:	General Requirements:
ACCTG 231 Accounting for Business Operations (3)	ACCTG 231 Accounting for Business Operations (3)
AGEC 120 Agricultural Economics and Agribusiness (3)	AGEC 120 Agricultural Economics and Agribusiness (3)

BIOCH 521 General Biochemistry (3)	BIOCH 521 General Biochemistry (3)
BIOCH 522 General Biochemistry Laboratory (2)	BIOCH 522 General Biochemistry Laboratory (2)
BIOL 198 Principles of Biology (4)	BIOL 198 Principles of Biology (4)
BIOL 455 General Microbiology (4)	BIOL 455 General Microbiology (4)
CHM 210 Chemistry I (4)	CHM 210 Chemistry I (4)
CHM 230 Chemistry II (4)	CHM 230 Chemistry II (4)
CHM 371 Chemical Analysis (4)	
CHM 500 General Physical Chemistry (3)	CHM 500 General Physical Chemistry (3)
CHM 531 Organic Chemistry I (3)	CHM 531 Organic Chemistry I (3)
CHM 532 Organic Chemistry Laboratory (2)	CHM 532 Organic Chemistry I Laboratory (2)
CHM 550 Organic Chemistry II (3)	CHM 550 Organic Chemistry II (3)
COMM 105 Public Speaking IA (2)	COMM 105 Public Speaking IA (2)
ECON 110 Principles of Macroeconomics (3)	ECON 110 Principles of Macroeconomics (3)
ENGL 100 Expository Writing I (3)	ENGL 100 Expository Writing I (3)
ENGL 200 Expository Writing II (3)	ENGL 200 Expository Writing II (3)
	<u>FDSCI 727 Chemical Methods (2)</u>
GENAG 101 Ag Orientation (1)	
	<u>GRSC 100 Grain Science and Industry Orientation (1)</u>
GRSC 101 Introduction to Grain Science and Industry (3)	GRSC 101 Introduction to Grain Science and Industry (3)
GRSC 150 Principles of Milling (3)	GRSC 150 Principles of Milling (2)
	<u>GRSC 151 Principles of Milling Laboratory (1)</u>
GRSC 210 CAD Flow Sheets for Grain Processes (3)	GRSC 210 CAD Flow Sheets for Grain Processes (3)
GRSC 310 Materials Handling (3)	GRSC 310 Materials Handling (3)
GRSC 500 Milling Science I (4)	GRSC 500 Milling Science I (2)
	<u>GRSC 501 Milling Science I Laboratory (2)</u>
GRSC 602 Cereal Science (3)	GRSC 602 Cereal Science (3)
GRSC 625 Flour and Dough Testing (3)	GRSC 625 Flour and Dough Testing (3)

GRSC 630 Management Applications in the Grain Processing Industries (3)	GRSC 630 Management Applications in the Grain Processing Industries (3)
GRSC 635 Baking Science I (2)	GRSC 635 Baking Science I (2)
GRSC 636 Baking Science I Laboratory (2)	GRSC 636 Baking Science I Laboratory (2)
GRSC 651 Food and Feed Product Protection (4)	GRSC 651 Food and Feed Product Protection (4)
GRSC 680 Milling Science II (2)	GRSC 680 Milling Science II (2)
GRSC 681 Milling Science II Laboratory (2)	GRSC 681 Milling Science II Laboratory (2)
GRSC 684 Milling Processing Technology Management (3)	GRSC 684 Milling Processing Technology Management (3)
MATH 220 Analytic Geometry and Calculus I (4)	MATH 220 Analytic Geometry and Calculus I (4)
MATH 221 Analytic Geometry and Calculus II (4)	MATH 221 Analytic Geometry and Calculus II (4)
PHYS 213 Engineering Physics I (5)	PHYS 213 Engineering Physics I (5)
PHYS 214 Engineering Physics II (5)	PHYS 214 Engineering Physics II (5)
STAT 325 Introduction to Statistics (3)	STAT 325 Introduction to Statistics (3)
Free Elective (3)	Free Elective (3)
Social Science Electives (6)	Social Science Electives (6)
Specialization Electives (6)	Specialization Electives (7)
Total hours required for graduation: 130 credit hours	Total hours required for graduation: <u>129</u> credit hours
Specialization Electives	Specialization Electives
ACCTG 231 Accounting for Business Operations (3)	ACCTG 231 Accounting for Business Operations (3)
ACCTG 241 Accounting for Investing and Financing (3)	ACCTG 241 Accounting for Investing and Financing (3)
AGEC 318 Food and Agribusiness Management (3)	AGEC 318 Food and Agribusiness Management (3)
AGEC 420 Commodity Futures (3)	AGEC 420 Commodity Futures (3)
AGEC 500 Production Economics (3)	AGEC 500 Production Economics (3)
AGEC 513 Agricultural Finance (3)	AGEC 513 Agricultural Finance (3)
AGEC 515 Food and Agribusiness Marketing (3)	AGEC 515 Food and Agribusiness Marketing (3)
AGEC 520 Market Fundamentals and Futures/Options Trading (3)	AGEC 520 Market Fundamentals and Futures/Options Trading (3)
AGEC 632 Agribusiness Logistics (3)	AGEC 632 Agribusiness Logistics (3)

AGRON 340 Grain Grading (2)	AGRON 340 Grain Grading (2)
COMM 311 Business and Professional Speaking (3)	COMM 311 Business and Professional Speaking (3)
ENGL 516 Written Communication for the Sciences (3)	ENGL 516 Written Communication for the Sciences (3)
	<u>GRSC 201 Fundamental Baking Calculations (1)</u>
	<u>GRSC 499 Undergraduate Research in Grain Science (0-3)</u>
GRSC 540 Engineering Applications to Grain/Food Products (3)	GRSC 540 Engineering Applications to Grain/Food Products (3)
GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)	GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)
GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)	GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)
GRSC 620 Extrusion Processing in the Food and Feed Industries (4)	GRSC 620 Extrusion Processing in the Food and Feed Industries (4)
GRSC 640 Advanced Flow Sheets (2)	GRSC 640 Advanced Flow Sheets (2)
GRSC 691 Faculty-Led Study Abroad (1-3)	GRSC 691 Faculty-Led Study Abroad (1-3)
GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)	GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)
GRSC 713 Contemporary Chromatographic Analysis of Food (1)	GRSC 713 Contemporary Chromatographic Analysis of Food (1)
GRSC 745 Fundamentals of Bioprocessing (3)	GRSC 745 Fundamentals of Bioprocessing (3)
MANGT 390 Business Law I (3)	MANGT 390 Business Law I (3)
MANGT 420 Management Concepts (3)	MANGT 420 Management Concepts (3)
MANGT 530 Industrial and Labor Relations (3)	MANGT 530 Industrial and Labor Relations (3)
MANGT 531 Human Resources Management (3)	MANGT 531 Human Resources Management (3)

RATIONALE:

The curriculum is revised to reflect course changes included in CoA Fall 2012 proposal.

List of proposed changes:

- Add GRSC 499 as specialization elective (concurrently proposed as new course)
- Drop CHM 371, add FDSCI 727 (approved in Spring 2012 C&C meeting, but did not carry over to the Faculty Senate meeting)

- Drop GENAG 101, add GRSC 100
(concurrently proposed as new course)
- Drop GRSC 150, add GRSC 150 and 151
(concurrently proposed as lab/lecture split course)
- Drop GRSC 500, add GRSC 500 and 501
(concurrently proposed as lab/lecture split course)
- Increase specialization electives from 6 to 7
- Decrease total credit hours from 130 to 129
(same as the MSM-Operations option)

IMPACT: No impact on other departments.
Departments of Chemistry and Food Science were contacted in Spring 2012 regarding CHM 371 and FDSCI 727.

EFFECTIVE DATE: Fall 2013

B.S. in Milling Science and Management
Operations Option

FROM:

TO:

MSM – Operations Option General Requirements:	MSM – Operations Option General Requirements:
ACCTG 231 Accounting for Business Operations (3)	ACCTG 231 Accounting for Business Operations (3)
AGEC 120 Agricultural Economics and Agribusiness (3)	AGEC 120 Agricultural Economics and Agribusiness (3)
AGRON 340 Grain Grading (2)	AGRON 340 Grain Grading (2)
BIOCH 265 Introductory Organic and Biochemistry (5)	BIOCH 265 Introductory Organic and Biochemistry (5) <u>or</u> <u>CHM 350 General Organic Chemistry (3)</u> <u>and</u> <u>CHM 351 General Organic Chemistry Laboratory (2)</u>
BIOL 198 Principles of Biology (4)	BIOL 198 Principles of Biology (4)
BIOL 455 General Microbiology (4)	BIOL 455 General Microbiology (4)
CHM 210 Chemistry I (4)	CHM 210 Chemistry I (4)
CHM 230 Chemistry II (4)	CHM 230 Chemistry II (4)
COMM 105 Public Speaking IA (2)	COMM 105 Public Speaking IA (2)

ECON 110 Principles of Macroeconomics (3)	ECON 110 Principles of Macroeconomics (3)
ENGL 100 Expository Writing I (3)	ENGL 100 Expository Writing I (3)
ENGL 200 Expository Writing II (3)	ENGL 200 Expository Writing II (3)
GENAG 101 Ag Orientation (1)	<u>GRSC 100 Grain Science and Industry Orientation (1)</u>
GRSC 101 Introduction to Grain Science and Industry (3)	GRSC 101 Introduction to Grain Science and Industry (3)
GRSC 150 Principles of Milling (3)	GRSC 150 Principles of Milling (2)
	<u>GRSC 151 Principles of Milling Laboratory (1)</u>
GRSC 210 CAD Flow Sheets for Grain Processes (3)	GRSC 210 CAD Flow Sheets for Grain Processes (3)
GRSC 310 Materials Handling (3)	GRSC 310 Materials Handling (3)
GRSC 405 Grain Analysis Techniques (2)	GRSC 405 Grain Analysis Techniques (2)
GRSC 500 Milling Science I (4)	GRSC 500 Milling Science I (2)
	<u>GRSC 501 Milling Science I Laboratory (2)</u>
GRSC 540 Engineering Applications to Grain/Food Products (3)	GRSC 540 Engineering Applications to Grain/Food Products (3)
GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)	GRSC 541 Engineering Applications to Grain/Food Products Laboratory (1)
GRSC 602 Cereal Science (3)	GRSC 602 Cereal Science (3)
GRSC 610 Electricity and Its Control for the Grain Processing Industry(3)	GRSC 610 Electricity and Its Control for the Grain Processing Industry (3)
GRSC 625 Flour and Dough Testing (3)	GRSC 625 Flour and Dough Testing (3)
GRSC 630 Management Applications in the Grain Processing Industries (3)	GRSC 630 Management Applications in the Grain Processing Industries (3)
GRSC 635 Baking Science I (2)	GRSC 635 Baking Science I (2)
GRSC 636 Baking Science I Laboratory (2)	GRSC 636 Baking Science I Laboratory (2)
GRSC 640 Advanced Flow Sheets (2)	GRSC 640 Advanced Flow Sheets (2)
GRSC 651 Food and Feed Product Protection (4)	GRSC 651 Food and Feed Product Protection (4)
GRSC 655 Cereal Food Plant Design and Construction (3)	GRSC 655 Cereal Food Plant Design and Construction (3)
GRSC 656 Pneumatic Conveying of Dry Solids (2)	GRSC 656 Pneumatic Conveying of Dry Solids (2)

GRSC 680 Milling Science II (2)	GRSC 680 Milling Science II (2)
GRSC 681 Milling Science II Laboratory (2)	GRSC 681 Milling Science II Laboratory (2)
GRSC 684 Milling Processing Technology Management (3)	GRSC 684 Milling Processing Technology Management (3)
MATH 220 Analytic Geometry and Calculus I (4)	MATH 220 Analytic Geometry and Calculus I (4)
PHYS 113 General Physics I (4)	PHYS 113 General Physics I (4)
PHYS 114 General Physics II (4)	PHYS 114 General Physics II (4)
STAT 325 Introduction to Statistics (3)	STAT 325 Introduction to Statistics (3)
Free Elective (3)	Free Elective (3)
Social Science Electives (9)	Social Science Electives (9)
Specialization Electives (5)	Specialization Electives (5)
Total hours required for graduation: 129 credit hours	Total hours required for graduation: 129 credit hours
Specialization Electives:	Specialization Electives:
ACCTG 241 Accounting for Investing and Financing (3)	ACCTG 241 Accounting for Investing and Financing (3)
ACCTG 331 Accounting Processes and Controls (4)	ACCTG 331 Accounting Processes and Controls (4)
AGEC 318 Food and Agribusiness Management (3)	AGEC 318 Food and Agribusiness Management (3)
AGEC 420 Commodity Futures (3)	AGEC 420 Commodity Futures (3)
AGEC 513 Agricultural Finance (3)	AGEC 513 Agricultural Finance (3)
AGEC 515 Food and Agribusiness Marketing (3)	AGEC 515 Food and Agribusiness Marketing (3)
AGEC 520 Market Fundamentals and Futures/Options Trading (3)	AGEC 520 Market Fundamentals and Futures/Options Trading (3)
AGEC 632 Agribusiness Logistics (3)	AGEC 632 Agribusiness Logistics (3)
CHM 371 Chemical Analysis (4)	CHM 371 Chemical Analysis (4)
COMM 311 Business and Professional Speaking (3)	COMM 311 Business and Professional Speaking (3)
ENGL 516 Written Communication for the Sciences (3)	ENGL 516 Written Communication for the Sciences (3)
	<u>GRSC 201 Fundamental Baking Calculations (1)</u>
	<u>GRSC 499 Undergraduate Research in Grain Science (0-3)</u>

GRSC 620 Extrusion Processing in the Food and Feed Industries (4)	GRSC 620 Extrusion Processing in the Food and Feed Industries (4)
GRSC 691 Faculty-Led Study Abroad (1-3)	GRSC 691 Faculty-Led Study Abroad (1-3)
GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)	GRSC 712 Vibrational Spectroscopic Analysis and Chemometrics (1-2)
GRSC 713 Contemporary Chromatographic Analysis of Food (1)	GRSC 713 Contemporary Chromatographic Analysis of Food (1)
GRSC 745 Fundamentals of Bioprocessing (3)	GRSC 745 Fundamentals of Bioprocessing (3)
MANGT 390 Business Law I (3)	MANGT 390 Business Law I (3)
MANGT 420 Management Concepts (3)	MANGT 420 Management Concepts (3)
MANGT 530 Industrial and Labor Relations (3)	MANGT 530 Industrial and Labor Relations (3)
MANGT 531 Human Resources Management (3)	MANGT 531 Human Resources Management (3)

RATIONALE: The curriculum is revised to reflect course changes included in CoA Fall 2012 proposal.

List of proposed changes:

- Add GRSC 499 as specialization elective (concurrently proposed as new course)
- Drop GENAG 101, add GRSC 100 (concurrently proposed as new course)
- Drop GRSC 150, add GRSC 150 and 151 (concurrently proposed as lab/lecture split course)
- Drop GRSC 500, add GRSC 500 and 501 (concurrently proposed as lab/lecture split course)

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

College of Architecture, Planning, and Design (12-21-12)

Non-Expedited Proposals – Courses Numbered 000-599

Department of Architecture (Master of Architecture Program)

New Course

Effective: Fall 2013

Impact on Other Units: None

Course: **ARCH265 Basic Problems in Architectural Design**
Catalog Description: Study of specific architectural design problems under the direction of a member of the architecture faculty
Note: Repeatable
Credits: (Variable)
Requisites: None
When Offered: Fall, Spring, Summer
Rationale: To have a lower level 'Architecture Problems' course available for use by undergraduate students.

Course: **ARCH503 Internship Planning Seminar**
Catalog Description: Exploration and preparation for an architecture internship in the field of architecture.
Credits: (1)
When Offered: Fall
Pre-requisite: 4th Year Standing
Grading Basis: Credit/No Credit
UGE/K-State 8: No
Rationale: This course reflects the time and effort necessary to prepare for internship under the direct supervision of a faculty member.

Department of Landscape Architecture/Regional & Community Planning (Master of Landscape Architecture Program)

New Course

Effective: Fall 2013

Impact on Other Units: None

Course: **LAR350 Landscape Architecture Plant Materials**
Catalog Description: Identification, ornamental attributes, cultural considerations, and use of important native and ornamental trees, shrubs, vines, and ground cover. Additionally, there will be an introduction to herbaceous plants. Weekly lab consists of outdoor walking tours on campus to reinforce identification characteristics of plant specimens as well as develop appreciation of plant character for integration into the landscape.
Credits: (3)
Pre-requisites: Admission to the LA professional program
When Offered: Fall
K-State 8: 1) Aesthetic Interpretation
2) Natural and Physical Sciences

Rationale: Core course needs to be added to curriculum.

**Office of the Dean
(Environmental Design Studies Program)**

New Course

Effective: Fall 2013

Impact on Other Units: None

Course: ENVD 210 Indian Art, Architecture & Culture

Catalog Description: This course is designed to assist students in understanding India and its cultural, artistic, and architectural heritage so that students can develop a deeper understanding and appreciation for Indian culture, people and their way of life.

Credits: (3)

Requisites: None

When Offered: Fall, Spring

K-State 8:
1) Aesthetic Interpretation
2) Global Issues & Perspectives

Rationale: This is a First Year Seminar course. It has previously been offered under a problems course number, but needs its own course number to aid enrollment.

College of Human Ecology

UNDERGRADUATE CURRICULUM CHANGES

Department of Apparel, Textiles and Interior Design

Change From: Interior Design (B.S.)	Change TO: Interior Design (B.S.)
Bachelor's degree requirements	Bachelor's degree requirements
General requirements (39-41 credit hours)	General requirements (40-42 credit hours)
Communications (8-9 credit hours)	Communications (8-9 credit hours)
<ul style="list-style-type: none"> • COMM 105 - Public Speaking IA Credits: (2) • or • COMM 106 - Public Speaking I Credits: (3) • ENGL 100 - Expository Writing I Credits: (3) • ENGL 200 - Expository Writing II Credits: (3) 	<ul style="list-style-type: none"> • COMM 105 - Public Speaking IA Credits: (2) • or • COMM 106 - Public Speaking I Credits: (3) • ENGL 100 - Expository Writing I Credits: (3) • ENGL 200 - Expository Writing II Credits: (3)
Quantitative Studies (6 credit hours)	Quantitative Studies (6 credit hours)
<ul style="list-style-type: none"> • Statistics course Credits: (3) • MATH 100 - College Algebra Credits: (3) • or • College-level calculus course Credits: (3) 	<ul style="list-style-type: none"> • Statistics course Credits: (3) • MATH 100 - College Algebra Credits: (3) • or • College-level calculus course Credits: (3)
Social Sciences (9 credit hours)	Social Sciences (9 credit hours)
<ul style="list-style-type: none"> • ECON 110 - Principles of Macroeconomics Credits: (3) • PSYCH 110 - General Psychology Credits: (3) • SOCIO 211 - Introduction to Sociology Credits: (3) 	<ul style="list-style-type: none"> • ECON 110 - Principles of Macroeconomics Credits: (3) • PSYCH 110 - General Psychology Credits: (3) • SOCIO 211 - Introduction to Sociology Credits: (3)
Natural Sciences (7-8 credit hours)	Natural and Physical Sciences (7-8 credit hours)
<ul style="list-style-type: none"> • Life Science Elective Credits: (3) • PHYS 101 - The Physical World I Credits: (3) • and • PHYS 103 - The Physical World I Laboratory Credits: (1) • or • PHYS 115 - Descriptive Physics Credits: (5) 	<ul style="list-style-type: none"> • Life Science Elective Credits: (3) • PHYS 101 - The Physical World I Credits: (3) • and • PHYS 103 - The Physical World I Laboratory Credits: (1) • or • PHYS 115 - Descriptive Physics Credits: (5)
Humanities (6 credit hours)	Humanities (9 credit hours)
<ul style="list-style-type: none"> • ART 196 - Survey of Art History II Credits: (3) • HIST 101 - Western Civilization: The Rise of Europe Credits: (3) 	<ul style="list-style-type: none"> • ART 196 - Survey of Art History II Credits: (3) • HIST 101 - Western Civilization: The Rise of Europe Credits: (3) • PHILO 100 – Introduction to Philosophical

Additional Integrative Studies (3 credit hours)

- ~~FSHS 350 – Family Relationships and Gender Roles Credits: (3)~~
- ~~or~~
- ~~GNHE 310 – Human Needs Credits: (3)~~

Professional studies (80 credit hours)

Professional Courses (56 credit hours)

- AT 265 - Textiles Credits: (3)
- ID 015 - First Year ID Student Assembly Credits: (0)
- ID 210 - Design and Behavior in the Interior Environment Credits: (3)
- ID 225 - Interior Design Studio 1 Credits: (3)
- ID 245 - Interior Design Studio 2 Credits: (4)
- ID 310 - Construction Methods and Materials for Interior Design Credits: (4)
- ID 320 - History of Interior Design I Credits: (3)
- ID 325 - Interior Design Studio 3 Credits: (4)
- ID 345 - Interior Design Studio 4 Credits: (3)
- ID 360 - History of Interior Design II Credits: (3)
- ID 415 - Computer-Aided Visual Communication in Interior Design Credits: (3)
- ID 425 - Interior Design Studio 5 Credits: (3)
- ID 435 - Environmental Systems for Interior Design Credits: (3)
- ID 445 - Interior Design Studio 6 Credits: (3)
- ID 530 - Interior Design Practices and Procedures Credits: (3)
- ID 545 - Interior Design Studio 7 Credits: (4)
- ID 645 - Interior Design Studio 8 Credits: (4)
- ID 651 - Design for Supportive Environments Credits: (3)

Professional Electives (24 credit hours)

Select from the following content areas:

- Studio Arts Credits: (6)
- Professional Applications Credits: (12)
and
- Business Credits: (6)

Studio Arts (6 credit hours)

Problems (3)

or

- **PHILO 130 Introduction to Moral Philosophy (3)**

Integrative Human Ecology Course (1 credit hour)

- **GNHE 210 – Foundations of Human Ecology Credits: (1)**

Professional studies (80 credit hours)

Grades of "C" or higher are required.

Professional Courses (56 credit hours)

- AT 265 - Textiles Credits: (3)
- ID 015 - First Year ID Student Assembly Credits: (0)
- ID 210 - Design and Behavior in the Interior Environment Credits: (3)
- ID 225 - Interior Design Studio 1 Credits: (3)
- ID 245 - Interior Design Studio 2 Credits: (4)
- ID 310 - Construction Methods and Materials for Interior Design Credits: (4)
- ID 320 - History of Interior Design I Credits: (3)
- ID 325 - Interior Design Studio 3 Credits: (4)
- ID 345 - Interior Design Studio 4 Credits: (3)
- ID 360 - History of Interior Design II Credits: (3)
- ID 415 - Computer-Aided Visual Communication in Interior Design Credits: (3)
- ID 425 - Interior Design Studio 5 Credits: (3)
- ID 435 - Environmental Systems for Interior Design Credits: (3)
- ID 445 - Interior Design Studio 6 Credits: (3)
- ID 530 - Interior Design Practices and Procedures Credits: (3)
- ID 545 - Interior Design Studio 7 Credits: (4)
- ID 645 - Interior Design Studio 8 Credits: (4)
- ID 651 - Design for Supportive Environments Credits: (3)

Professional Electives (24 credit hours)

Select from the following content areas:

- Studio Arts Credits: (6)
- Professional Applications Credits: (12)
and
- Business Credits: (6)

Studio Arts (6 credit hours)

- ART 200 - 3- Dimensional Design Credits: (3)
- ART 220 - Water Media I Credits: (3)
- ART 230 - Sculpture I Credits: (3)
- ART 245 - Introduction to Oil Painting Credits: (3)
- ART 265 - Ceramics I Credits: (3)
- ART 270 - Metalsmithing I Credits: (3)

Professional Applications (12 credit hours)

- ARCH 301 - Appreciation of Architecture Credits: (3)
- GERON 315 - Introduction to Gerontology Credits: (3)
- ID 399 - Interior Design Practicum Credits: (1-2)
- ID 410 - Housing and Its Environment Credits: (3)
- ID 440 - Lighting for Interiors Credits: (3)
- ID 599 - Interior Design Internship Credits: (3-4)
- ID 600 - Interior Design Study Tour Credits: (3)
- ID 630 - Topics in Advanced Interior Design Theory Credits: (3)
- ID 650 - Advanced Design and Behavior in the Interior Environment Credits: (3)
- ID 660 - Advanced Kitchen and Bath Design Credits: (3)
- ID 680 - Historic Fabric Design Credits: (3)
- ID 710 - Housing and Facilities Management Processes/Applications Credits: (3)
- ID 725 - Community Housing Assessment Credits: (3)
- ID 760 - Historic Preservation and Restoration of Interiors Credits: (3)
- THTR 579 - Fundamentals of Stage Lighting Credits: (3)

Business (6 credit hours)

- ACCTG 231 - Accounting for Business Operations Credits: (3)
- AGEC 202 - Small Business Operations Credits: (3)
- FINAN 552 - Real Estate Credits: (3)

- ART 200 - 3- Dimensional Design Credits: (3)
- **ART 210 – Drawing II Credits: (3)**
- ART 220 - Water Media I Credits: (3)
- ART 230 - Sculpture I Credits: (3)
- **ART 235 - Printmaking I Credits: (3)**
- ART 245 - Introduction to Oil Painting Credits: (3)
- ART 265 - Ceramics I Credits: (3)
- ART 270 - Metalsmithing I Credits: (3)
- **ART 285 – Illustration I Credits: (3)**
- **ART 290 – Type and Design Principles Credits: (3)**
- **ART 295 – Photography in Art I Credits: (3)**

Professional Applications (12 credit hours)

- ARCH 301 - Appreciation of Architecture Credits: (3)
- GERON 315 - Introduction to Gerontology Credits: (3)
- ID 399 - Interior Design Practicum Credits: (1-2)
- ID 410 - Housing and Its Environment Credits: (3)
- ID 440 - Lighting for Interiors Credits: (3)
- ID 599 - Interior Design Internship Credits: (3-4)
- ID 600 - Interior Design Study Tour Credits: (1-3)
- ID 630 - Topics in Advanced Interior Design Theory Credits: (3)
- ID 650 - Advanced Design and Behavior in the Interior Environment Credits: (3)
- ID 660 - Advanced Kitchen and Bath Design Credits: (3)
- ID 680 - Historic Fabric Design Credits: (3)
- ID 710 - Housing and Facilities Management Processes/Applications Credits: (3)
- ID 725 - Community Housing Assessment Credits: (3)
- ID 760 - Historic Preservation and Restoration of Interiors Credits: (3)
- THTR 579 - Fundamentals of Stage Lighting Credits: (3)
- **FSHS 350 - Family Relationships and Gender Roles Credits: (3)**
- **or**
- **GNHE 310 – Human Needs Credits: (3)**

Business (6 credit hours)

- ACCTG 231 - Accounting for Business Operations Credits: (3)
- AGEC 202 - Small Business Operations Credits: (3)
- FINAN 552 - Real Estate Credits: (3)

<ul style="list-style-type: none"> • MANGT 390 - Business Law I Credits: (3) • MANGT 420 - Management Concepts Credits: (3) • MC 180 - Fundamentals of Public Relations Credits: (3) • MKTG 400 - Introduction to Marketing Credits: (3) • PSYCH 563 - Gender Issues in the Workplace Credits: (3) <p>Unrestricted electives (4-6 credit hours)</p> <hr/> <p>Total hours required for graduation (125 credit hours)</p>	<ul style="list-style-type: none"> • MANGT 390 - Business Law I Credits: (3) • MANGT 420 - Management Concepts Credits: (3) • MC 180 - Fundamentals of Public Relations Credits: (3) • MKTG 400 - Introduction to Marketing Credits: (3) • PSYCH 563 - Gender Issues in the Workplace Credits: (3) <p>Unrestricted electives (3-5 credit hours)</p> <hr/> <p>Total hours required for graduation (125 credit hours)</p>
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Rationale: Due to the recent changes in the course requirements for K-State 8 tags, a course in the ID curriculum (ID530) currently tagged as “Ethical Reasoning and Responsibility” will no longer qualify beginning the Fall 2013 term. Therefore, alternative courses had to be identified that would fulfill these tags. Two course options PHILO 100 or PHILO 130, with offerings fall, spring and summer, are being added to the ID curriculum so students have multiple opportunities to work a course with the tag for “Ethical Reasoning and Responsibility” into their schedules. This will also minimize the impact on the department teaching these courses.

The GNHE 210 Course needs to be added to the Integrative Studies to fulfill the College of Human Ecology Requirements. GNHE 310 and FSHS 350 are now being included in the Professional Applications Electives.

ID600 Study Tour is now a variable credit course.

The number of Art Elective options is being expanded to provide a greater diversity art experiences and create more opportunities for students by spreading enrollment across the 200 level art courses. This change is supported by the Art Department.

The requirements for GENERAL REQUIREMENTS will, therefore, increase by 1 credit hour; the requirements for UNRESTRICTED ELECTIVES will decrease by 1 credit hour; the total number of hours to earn a B.S. in Interior Design will remain unchanged.

Impact (i.e. if this impacts another unit): Adding PHILO 100 and PHILO 130 will slightly increase student enrollments for courses each semester. Dr. Bruce Gylmour, Interim Head of the Dept. of Philosophy, has confirmed that his department can handle this increase for these two courses.

Adding a broader range of art classes will help spread enrollment across the 200 level classes, a change that is supported by Geri Craig, the head of the Art Department.

Effective: Fall 2013

School of Family Studies and Human Services

CHANGE FROM:	CHANGE TO:
<p>Conflict Analysis and Trauma Studies (CATS) Minor</p> <hr/> <p>The undergraduate minor in Conflict Analysis and Trauma Studies provides a theoretical and empirical framework and model for analysis and study of trauma, violence, conflict, and their</p>	<p>Conflict Analysis and Trauma Studies (CATS) Minor</p> <hr/> <p>The undergraduate minor in Conflict Analysis and Trauma Studies provides a theoretical and empirical framework and model for analysis and study of trauma, violence, conflict, and their</p>

consequences. This emerging study provides students, faculty, and human service professionals the knowledge for establishing post-trauma and post-conflict reconstruction practice, research, service and policy to improve interpersonal and social systems.

Program requirements (18 credit hours)

Core courses (required 6 credit hours)

- FSHS 529 - Trauma and Traumatic Stress **Credits: (3)**
- FSHS 531 - Core Conflict Resolution **Credits: (3)**

Elective courses (6 credit hours)

Choose a minimum of two courses from:

- FSHS 532 - Conflict Resolution across Cultures & Contexts **Credits: (3)**
- FSHS 533 - Prevention & Intervention of Violence **Credits: (3)**
- FSHS 534 - Conflict in Organizations **Credits: (3)**
- FSHS 535 - Divorce & Child Custody Mediation **Credits: (3)**
- FSHS 536 - Conflict and Trauma in International Settings **Credits: (3)**
- FSHS 603 - Coping with Life Crises **Credits: (3)**

Additional course options (6 credit hours)

- COMM 480 - Intercultural Communication **Credits: (3)**
- COMM 542 - Relational Communication **Credits: (3)**
- HIST 551 - History of Family Violence **Credits: (3)**
- POLSC 642 - International Conflict **Credits: (3)**
- PSYCH 540 - Psychology of Women **Credits: (3)**
- PSYCH 563 - Gender Issues in the Workplace

consequences. This emerging study provides students, faculty, and human service professionals the knowledge for establishing post-trauma and post-conflict reconstruction practice, research, service and policy to improve interpersonal and social systems.

Program requirements (18 credit hours)

Core courses (required 6 credit hours)

- FSHS 529 - Trauma and Traumatic Stress **Credits: (3)**
- FSHS 531 - Core Conflict Resolution **Credits: (3)**

Elective courses (6 credit hours)

Choose a minimum of two courses from:

- FSHS 532 - Conflict Resolution across Cultures & Contexts **Credits: (3)**
- FSHS 533 - Prevention & Intervention of Violence **Credits: (3)**
- FSHS 534 - Conflict in Organizations **Credits: (3)**
- FSHS 535 - Divorce & Child Custody Mediation **Credits: (3)**
- FSHS 536 - Conflict and Trauma in International Settings **Credits: (3)**
- FSHS 603 - Coping with Life Crises **Credits: (3)**

Additional course options (6 credit hours)

- COMM 480 - Intercultural Communication **Credits: (3)**
- COMM 542 - Relational Communication **Credits: (3)**
- **FSHS 305 – Family Violence Credits: (3)**
- HIST 551 - History of Family Violence **Credits: (3)**
- POLSC 642 - International Conflict **Credits: (3)**
- PSYCH 540 - Psychology of Women **Credits: (3)**

<p>Credits: (3)</p> <ul style="list-style-type: none"> • SOCIO 363 - Global Problems Credits: (3) • SOCIO 507 - International Development and Social Change Credits: (3) • THTRE 673 - Theatre for Conflict Resolution Credits: (3) • WOMST 380 - Women and Global Social Change Credits: (3) • WOMST 551 - The History and Politics of Family Violence Credits: (3) • WOMST 560 - Women and Violence Credits: (3) • Other electives or independent study options relevant to the area of conflict resolution and trauma studies (e.g., Faculty-Led International Study) 	<ul style="list-style-type: none"> • PSYCH 563 - Gender Issues in the Workplace Credits: (3) • SOCIO 363 - Global Problems Credits: (3) • SOCIO 507 - International Development and Social Change Credits: (3) • SOCIO 360 – Social Problems Credits (3) • THTRE 673 - Theatre for Conflict Resolution Credits: (3) • WOMST 380 - Women and Global Social Change Credits: (3) • WOMST 551 - The History and Politics of Family Violence Credits: (3) • WOMST 560 - Women and Violence Credits: (3) • Other electives or independent study options relevant to the area of conflict resolution and trauma studies (e.g., Faculty-Led International Study)
<p>Completion requirements</p>	<p>Completion requirements</p>
<p>The minor in Conflict and Trauma Studies will be available upon completion of the eighteen (18) required credit hours. To be awarded a minor, the student (a) must not be on probation, (b) must have a cumulative GPA of 2.5 or higher on coursework applied to the minor, (c) must meet all requirements of the student’s major program, and (d) must be enrolled during the semester in which the minor’s requirements are completed.</p>	<p>The minor in Conflict and Trauma Studies will be available upon completion of the eighteen (18) required credit hours. To be awarded a minor, the student (a) must not be on probation, (b) must have a cumulative GPA of 2.5 or higher on coursework applied to the minor, (c) must meet all requirements of the student’s major program, and (d) must be enrolled during the semester in which the minor’s requirements are completed.</p>

Rationale: Requested addition of these two courses (SOCIO 360 Social Problems and FSHS 305 Family Violence) as additional course options for CATS Minor students. Courses have been requested routinely by students to fill as an “other elective” for the minor, so we would like to add them as regular options to the curriculum list.

Impact (i.e. if this impacts another unit): Approvals have been obtained from the Department of Sociology, Anthropology and Social Work, Dr. Betsy Cauble, Head of the Department. Other course addition is within the School of Family Studies and Human Services and does not impact another unit.

EFFECTIVE: Fall 2013

GRADUATE SCHOOL (12-4-12)

Agricultural Education and Communications

ADD: **AGCOM 890 850. Knowledge Management in Agriculture and Natural Resources.**
(Corrected
7/16/13. Course
number was
used twice.)
Lec. (3) II. Knowledge Management is a discipline that takes a comprehensive, systematic approach to the information assets of an organization by identifying, capturing, collecting, organizing, indexing, storing, integrating, retrieving and sharing them. This strategy turns an agricultural and natural organization's intellectual assets into greater productivity and increased competitiveness. It encourages collaboration for the sharing of expertise and knowledge of the best practices. This course examines knowledge management as it is emerging and being applied in agriculture and natural resources.

RATIONALE: Agriculture faces a major transition as it leaves the industrial era and enters the knowledge era. In the U. S., while it took 50 to 150 years to move from the agricultural to the industrial era, agriculture did not die — we just introduced an industrial approach to agriculture so less than 2% of our population now farms instead of 65%. Through this same time period, the scope of agriculture broadened from its original food and fiber focus to where it now includes natural resources, environment, nutrition and health, rural interests and other related sectors, most recently, energy. As society continues to unfold in this information age, agriculture will again transform itself. The key behavior in the success of this transformation will be the ability to create and use information that serves to facilitate decisions made by individuals and organizations and advances both the agriculture sector and society as a whole. As such, this course will examine the importance of knowledge management within the agriculture enterprise and the tools/strategies that will help guide success. One goal of the course is to help students develop the critical thinking skills necessary to address the potential of knowledge management within agriculture and natural resources. This course is part of the Ag*IDEA consortium.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: **AGED 834. International Agriculture and Extension Education.** Lec. (3) II, S. This course focuses on a broad range of topic areas in the field of extension education as it impacts agriculture and rural community development. The primary purpose is to further students' understanding about extension systems' influence on agricultural development and the interface of agriculture with rural communities throughout the world. Emphasis will be placed upon research, theory, history and conceptual models of extension for establishing a strong philosophical foundation.

RATIONALE: As a global agricultural leader, many developing nations look to the United States and our model of agricultural extension as essential elements to replicate for their own agricultural development. In this global context and with expanding opportunities and student interests for international agricultural development, this course is designed to engage students in an interdisciplinary examination of the complex problems of agricultural development and the interface between institutions of higher learning and

rural communities. The context at the local level will be examined and contrasted in both developing nations and developed nations. Specifically, the course is designed to acquaint students with the interaction among available resources, existing technology and science, farmers, culture and context, and the role educational channels play in the adoption of innovations (technology and science) to produce more quantity or high quality food and fiber and create a sustainable economy. This course is part of the Ag*IDEA consortium.

No impact on other departments.

IMPACT:

EFFECTIVE DATE: Fall 2013

Agronomy

ADD: **AGRON 722. Plant and Soil Chemometrics.** (3) II, even years. Introduction to the field of remote sensing chemometrics for characterizing the chemical and physical properties of organic and inorganic materials using a spectroradiometer. Three hours Lec/Rec. per week. Rec. Preq. AGRON 606/GEOG 605. K-State 8: No.

RATIONALE: This course will introduce students to the emerging field of plant/soil chemometrics.

IMPACT: GRSC 712, Vibrational Spectroscopic Analysis and Chemometrics, concerns the application of chemometrics in the food industry in a laboratory setting. AGRON 722 concerns the application of chemometrics for plant and soil analysis, often in a field setting. The Department of Grain Science and Industry has no objection to the new course.

EFFECTIVE DATE: Spring 2014

Animal Sciences and Industry

ADD: **ASI 635. Gamebird Production and Management.** (3). Fall. Principles and practices of upland game bird production including incubation and hatching, flight pen construction, nutritional management, predation control, disease management and meat processing. Rec. Pr: ASI 106. 2 hours lecture per week and 2 hours lab per week. K-State 8: No.

RATIONALE: This course is required by the Wildlife and Outdoor Enterprise Management Program.

IMPACT: This course was specifically developed for the Horticulture, Forestry and Recreational Resources Department, upon their request. The course has been reviewed and approved by HFRR.

EFFECTIVE DATE: Fall 2013

ADD: **ASI 662. Special Topics in Animal Science.** (0-6). Fall and Spring. Seminars of special interest will be offered upon sufficient demand in selected areas relating to animal science. K-State 8: No.

RATIONALE: Currently all special topics courses taught by guest lecturers or current faculty are being taught under ASI 661, Special Problems in Animal Science. ASI 661 is primarily for students who are working on hands-on projects with faculty. Adding a topics/seminar course would differentiate actual classes being taught from independent study projects.

IMPACT: No impact on other colleges/departments

EFFECTIVE DATE: Fall 2013

Diagnostic Medicine Patho/Biology

ADD: **DMP 713. Veterinary Bacteriology & Mycology - Laboratory. (1) I.** This lab is designed to assist the 2nd year veterinary student with the basic knowledge and skills for isolation and identification of bacterial and fungal agents of veterinary significance, from clinical and non-clinical samples and is designed to provide adequate knowledge and necessary training for veterinarians in practice. 3 hours of lab each week is required and 2nd year standing in the veterinary curriculum. This lab is required to be taken with DMP 712 Vet Bact. & Mycology - Lecture (3) I. Pr.: DMP 705 and BIOL 455

RATIONALE: By dividing the 4 credit DMP 712, Veterinary Bacteriology and Mycology, into 2 separate courses: DMP 712, 3 credits; Veterinary Bacteriology and Mycology – Lecture/ Recitation and DMP 713, 1 credit; Veterinary Bacteriology and Mycology - Laboratory, graduate students (including those outside the College of Veterinary Medicine) could take only the lecture portion of the course. Veterinary students will need to continue to enroll in both lecture/ recitation (DMP 712) and lab (DMP 713) for a total of 4 credits.

Impact (i.e. if this impacts another college/unit): None

EFFECTIVE DATE: Fall 2013

ADD: **DMP 810. Cancer Pathogenesis. (2) I.** This course, consisting of 2-hour lecture per week, will present an overview of the cancer development process at the cellular and molecular level, including regulatory networks involved in growth control and tissue organization and an introduction to animal, cell, and molecular techniques for studying progression, treatment, prevention of cancer. Pr. BIOL541 and BIOCH521

RATIONALE: To gain an appreciation of the complexity of the cancer development process at the cellular and molecular level; to provide students with an understanding of regulatory networks involved in growth control and tissue organization; to develop fundamental concepts of cancer etiology and epidemiology; to understand the cellular and molecular basis of current strategies for cancer prevention and treatment..

EFFECTIVE DATE: Fall 2013

Impact (i.e. if this impacts another college/unit): Department Heads for Biology and Biochemistry have approved of this new course listing with no objections given.

Entomology

ADD: **ENTOM 845. Insect Chemical Ecology.** The overall objective of this course is to familiarize the student with the interactions among organisms, including insects and other arthropods, which are mediated by naturally produced chemicals. Rec. Pr.: CHEM 350 General Organic Chemistry or its equivalent, or the consent of the instructor.

RATIONALE: A course on this topic has never been offered at K-State, but the subject material is very relevant to modern research and applications in insect science and pest management. Insect chemical ecology is the study of ecological interactions among insect, other organisms and their general environments that are mediated by naturally occurring chemicals.

IMPACT: No negative impacts. No objections were identified from Department Heads in the Division of Biology, and the Departments of Biochemistry, Chemistry, Agronomy, Horticulture, Plant Pathology.

EFFECTIVE DATE: Fall 2014

Food Science and Industry

ADD: **FDSCI 601. Food Microbiology Lab. (2).** Fall. Laboratory procedures involving isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing. Two two-hour labs a week. Pr: FDSCI 600 or concurrent enrollment.

RATIONALE: Food Microbiology is currently offered both on-campus and by distance, but under two different course numbers to reflect the difference of a 2 credit hour laboratory for on-campus students. The campus-based offering, FDSCI 607, is a 4-credit course comprised of both a lecture and a laboratory section (2-credits of lecture and 2-credits of lab). The distance offering, FDSCI 600, is a 2-credit course comprised of lecture containing the same content and material that is taught in the lecture portion of FDSCI 607. This proposal will separate FDSCI 607 into lecture (FDSCI 600) and laboratory (FDSCI 601) courses, thereby changing Food Microbiology from a single 4-credit hour course into two 2-credit hour courses. The benefits of this proposed change include enhanced options and greater flexibility for students, ability to more effectively manage enrollment capacity, more appropriate application of pre-requisites, greater ability to accommodate increasing demand driven by programmatic growth, and harmonization of course numbers for campus- and distance-based course offerings.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: **FDSCI 710. Kosher and Halal Food Regulations.** (2). This course is an introduction to the origin and application of Jewish and Muslim dietary laws and their application in commercial food production and processing with some coverage of home practices. Hebrew, Yiddish, and Arabic words and phrases will be presented and explained as they relate to kosher and halal food production, processing, and consumption. Religious festivals and customs, and the associated food products, will also be presented. Current food-related topics and issues in both the Jewish and Islam communities will be discussed. Food scientists should be aware of what constitutes a kosher or halal product and the importance of regulations dealing with the production and processing of these products. This is a web-based lecture course intended for off-campus distance education students. Lecture material is supplemented with web-based demonstrations. Pr: Junior Standing.

RATIONALE: In many communities, forty percent of all packaged goods in a supermarket store may be Kosher or Halal products. Food scientists should be aware of what constitutes a Kosher or Halal product and the importance of regulations dealing with the production and processing of these products. This distance course has been previously taught as a FDSCI 630 Problems course.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

Grain Science and Industry

ADD: **GRSC 646 - Pet Food Processing Laboratory**
Credits: (1)
A laboratory course to accompany Pet Food Processing (GRSC 645). The laboratory course is intended to reinforce the theory and concepts with actual experience producing a variety of pet foods. Students will gain first-hand knowledge of ingredient selection and handling and produce foods by a variety of processes, including extrusion, baking, canning, and injection molding.
Note
Three hours lab a week.
Requisites
Recommended prerequisite: GRSC 645 or concurrent enrollment.
When Offered Fall
UGE course No
K-State 8 None

RATIONALE: A new laboratory course to complement GRSC 645 lectures. This course has the same content as the lab component of the former GRSC 645. This split will provide flexibility in department's teaching assignments.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: **GRSC 689 - Feed Technology II Laboratory**
Credits: (1)
 A laboratory course to accompany Feed Technology II (GRSC 688).
 Laboratory exercises and advanced studies on engineering principles applicable to flour and feed plant operations, equipment selection, and processing systems.
Note
 Three hours lecture a week.
Requisites
 GRSC 688 or concurrent enrollment.
 FSM majors have to take GRSC 688 and GRSC 689 concurrently.

When Offered	Spring
UGE course	No
K-State 8	None

RATIONALE: A new laboratory course to complement GRSC 688 lectures. This course has the same content as the lab component of the former GRSC 690.
 This split will provide flexibility in department's teaching assignments and course offerings.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

ADD: **GRSC 786 - Particle Technology for Solids Handling and Processing**
Credits: (3)
 This course is designed to provide students an overview of particle technology with an emphasis on practical applications in milling and grain based operations. Conveying, storage, size reduction and separation are the important unit operations of grain processing (food, feed, chemical, pharmaceutical) industries that involve particle sizes ranging from a fraction of a micron to a few millimeters. The particle characteristics as they relate to processing operations such as milling, sieving, mixing, pelleting, etc. will be covered in this course. Subjects include size and shape characterization, size distribution and measurement, characteristic dimensions, density, and their theories governing the behavior of the particles under different conditions.
Note
 Three hours lecture a week.
Requisites
 Prerequisite: Graduate student status, MATH 220, STAT 325, PHYS 213 or consent of instructor.

When Offered	Spring.
UGE course	No
K-State 8	None

RATIONALE: Solids handling and processing that include food, feed, chemical and pharmaceutical particulate materials require the knowledge about properties of powder. This course will facilitate student learning towards in-depth understanding of properties of solids that influence their processing behaviour.

IMPACT:	No impact on other departments.
EFFECTIVE DATE:	Fall 2013

Public Health

Add:

MPH 701 - Fundamental Methods of Biostatistics

A course emphasizing concepts and practice of statistical data analysis for the health sciences. Basic techniques of descriptive and inferential statistical methods applied to health related surveys and designed experiments. Populations and samples, parameters and statistics; sampling distributions for hypothesis testing and confidence intervals for means and proportions involving one sample, paired samples and multiple independent samples; odds ratios, risk ratios, simple linear regression. Use of statistical software to facilitate the collection, manipulation, analysis and interpretation of health related data.

Credits: (3)

When Offered: Fall, Spring, Summer

Cross-Listed: STAT 701

MPH 708 - Veterinary Epidemiology

Introduction to the principles and methods of veterinary epidemiology: emphasizing how diseases affect populations (and associated implications for individuals), and application to disease diagnosis, treatment, prevention, and control.

Credits: (2)

When Offered: Spring

Cross-Listed: DMP 708

MPH 720 - Administration of Health Care Organizations

Comprehensive review of current health care institutions and their response to the economic, social/ethical, political/legal, technological, and ecological environments.

Credits: (3)

Note: Three hours lecture

When Offered: Spring

Cross-Listed: HMD 720

MPH 754 - Introduction to Epidemiology

The purpose of this course is to introduce students to the basic principles and methods of epidemiology in order to recognize and understand how disease affects populations (and the associated implications for individuals). This course will prepare students to use epidemiologic methods to solve current and future challenges to diagnose, treat, prevent, and control disease during their professional training and throughout their career.

Credits: (3)

When Offered: Fall

Cross-Listed: DMP 754

MPH 806 - Environmental Toxicology

An advanced toxicology course concerned with the occurrence, biological effect, detection, and control of foreign chemicals in the environment.

Credits: (2)

Requisites: Pr.: Consent of staff.

When Offered: Spring

Cross-Listed: DMP 806

MPH 854 - Intermediate Epidemiology

Epidemiologic principles of disease with a focus on measures of disease occurrence, association and impact, determinants of disease diagnostic test evaluation, study design and critical literature evaluation.

Credits: (3)

Requisites: Pr.: DMP 708 or DMP 754 or equivalent AND STAT 701 or STAT 703 or DMP 830 or equivalent.

When Offered: Spring

Cross-Listed: DMP 854

COURSE CHANGES

Biochemistry

FROM: ~~**BIOCH 590 – Physical Studies of Biomacromolecules.** (3) II. An overview of concepts and techniques of physical science used in studying the structure and function of biomacromolecules such as proteins and DNA. Applications include classical equilibrium thermodynamics and spectroscopic methods including mass spectrometry, circular dichroism (CD), and nuclear magnetic resonance (NMR). Pr.: CHM 500, MATH 221, and PHYS 114.~~

K-State 8 - Empirical and Quantitative Reasoning; Natural and Physical Sciences

TO: **BIOCH 775 – Molecular Biophysics.** (3) II. Survey of the biophysical methods most frequently encountered in biochemistry and related disciplines. It summarized concepts and techniques of physical science used in studying the structure and function of biomacromolecules such as proteins and DNA. Applications include classical equilibrium thermodynamics and analytical methods like mass spectrometry and circular dichroism (CD), fluorescence, EPR and nuclear magnetic resonance (NMR) spectroscopy. The class emphasizes the underlying principles and techniques used in determining the molecular weight and shape of biopolymers, biochemical mechanisms of action, and observation of conformational changes in macromolecules. Pr.: CHM 350/351, MATH 221, and PHYS 114, BIOCH 755, 756, 765.

K-State 8 - Empirical and Quantitative Reasoning; Natural and Physical Sciences

RATIONALE: The new class (Molecular Biophysics; see attach description – 3 credits) replaces, with significant changes BIOCH 590 (Physical Studies of Biomacromolecules – 3 credits). This proposed name change does not affect its content. We desire the new name for consistency with the anticipated change in

our departmental title to “Biochemistry and Molecular Biophysics.” The proposed BIOCH 775 will become one of the centerpiece courses in our BS degree program. The proposed course number (775) is consistent with the series BIOCH 755/765/775, which are required (in this order) in the BS curriculum.

IMPACT: None

EFFECTIVE DATE: Fall 2013

Public Health

Current Listing to Remain the same	Cross-Listing Designation to be added	Course Title	Course Credit Hours
DMP 708	MPH 708	Veterinary Epidemiology	2
DMP 754	MPH 754	Introduction to Epidemiology	3
DMP 806	MPH 806	Environmental Toxicology	2
DMP 840	MPH 840	Public Health Field Experience	Variable (3, 4, 5, 6)
DMP 854	MPH 854	Intermediate Epidemiology	3
FDSCI 840	MPH 840	Public Health Field Experience	Variable (3, 4, 5, 6)
HMD 720	MPH 720	Administration of Health Care Organizations	3
HN 840	MPH 840	Public Health Field Experience	Variable (3, 4, 5, 6)
KIN 818	MPH 818	Social and Behavioral Bases of Public Health	3
KIN 840	MPH 840	Public Health Field Experience	Variable (3, 4, 5, 6)
STAT 701	MPH 701	Fundamental Methods of Biostatistics	3

Rationale: In the process of accrediting our interdisciplinary Master of Public Health program, the accrediting agency for public health programs (the Council on Education for Public Health) voiced concerns over the fact that there are no MPH-specific courses in our curriculum. This summer (2012), our MPH Faculty Advisory Committee (FAC) voted to obtain a unique alpha listing for our 7 core classes and 4 field experience courses, cross-listing the MPH section with the current department’s listing. This suggestion from the FAC was then unanimously approved last week (10-04-2012) by the MPH Executive Committee (consisting of the eight department heads and five deans of the colleges involved in the MPH Program). The Registrar’s office (represented by Mike Crow) helped in the discussion, to ensure this could be done from the university’s perspective.

Impact (i.e. if this impacts another college/unit): College of Veterinary Medicine – Diagnostic Medicine and Pathobiology (DMP); College of Agriculture – Animal Sciences and Industry (Food Science Institute); College of Arts and Sciences – Kinesiology (KIN) and Statistics (STAT); College of Human Ecology – Human Nutrition (HN) and Hospitality Management and Dietetics (HMD)

Effective: Fall 2013

Department of Diagnostic Medicine / Pathobiology

CHANGE: **DMP 712. Veterinary Bacteriology & Mycology. (4) I.** Morphology, biology and classification of pathogenic bacteria and fungi and their relation to the causes of disease. Three hours of ~~rec and three hours of laboratory each week.~~ Pr.: ~~DMP 705 and~~ BIOL 455

TO: **DMP 712. Veterinary Bacteriology & Mycology - Lecture. (3) I.** Morphology, biology and classification of pathogenic bacteria and fungi and their relation to the causes of disease. Three hours of lecture each week. Pr.: BIOL 455

RATIONALE: By dividing the 4 credit DMP 712, Veterinary Bacteriology and Mycology, into 2 separate courses: DMP 712, 3 credits, Veterinary Bacteriology and Mycology – Lecture and DMP 713, 1 credit, Veterinary Bacteriology and Mycology – Laboratory, graduate students (including those outside the College of Veterinary Medicine) could take only the lecture portion of the course. Veterinary students will need to enroll in both Lecture (DMP 712) and Lab. (DMP 713) for 4 credits.

Impact (i.e. if this impacts another college/unit): None

EFFECTIVE DATE: Fall 2013

CHANGE: **DMP 718. Veterinary Parasitology. (4) I.** Study of the helminth, arthropod, and protozoan parasites of companion and food animals. Emphases are on diagnosis, clinical signs, lesions, treatment, control epidemiology, and public health aspects of parasitic disease. Pr: ~~AP 710 and DMP 708~~

TO: **DMP 718. Veterinary Parasitology. (4) I.** Study of the helminth, arthropod, and protozoan parasites of companion and food animals. Emphases are on diagnosis, clinical signs, lesions, treatment, control epidemiology, and public health aspects of parasitic disease. Pr: AP 710, 737, 747 and DMP 705 & 708. Must be 2nd yr student in the Veterinary Curriculum.

RATIONALE: We have determined that students taking DMP 718 must have a working knowledge and understanding of veterinary anatomy, immunology, epidemiology and physiology to be able to succeed in this course.

Impact (i.e. if this impacts another college/unit): None

Food Science and Industry

FROM: **FDSCI 600. Microbiology of Food. (2).** Fall, ~~Spring and Summer.~~ This course deals with the isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing. Effects of physical and chemical agents on micro-organisms will be studied. Microbiological problems in food spoilage, food preservation, food

fermentation, and food-borne diseases will be discussed. ~~This course cannot substitute for FDSCI 607. This is a Web-based lecture course intended for off-campus distance education students.~~ Rec. Pr. BIOL 455. K-State 8: Empirical and Quantitative Reasoning and Natural and Physical Sciences.

TO: **FDSCI 600. Food Microbiology.** (2). Fall. This course deals with the isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing. Effects of physical and chemical agents on micro-organisms will be studied. Microbiological problems in food spoilage, food preservation, food fermentation, and food-borne diseases will be discussed. Pr. BIOL 455. K-State 8: Empirical and Quantitative Reasoning and Natural and Physical Sciences.

RATIONALE: Food Microbiology is currently offered both on-campus and by distance, but under two different course numbers to reflect the difference of a 2 credit hour laboratory for on-campus students. The campus-based offering, FDSCI 607, is a 4-credit course comprised of both a lecture and a laboratory section (2-credits of lecture and 2-credits of lab). The distance offering, FDSCI 600, is a 2-credit course comprised of lecture containing the same content and material that is taught in the lecture portion of FDSCI 607. This proposal will separate FDSCI 607 into lecture (FDSCI 600) and laboratory (FDSCI 601) courses, thereby changing Food Microbiology from a single 4-credit hour course into two 2-credit hour courses. The benefits of this proposed change include enhanced options and greater flexibility for students, ability to more effectively manage enrollment capacity, more appropriate application of pre-requisites, greater ability to accommodate increasing demand driven by programmatic growth, and harmonization of course numbers for campus- and distance-based course offerings.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

Grain Science and Industry

FROM: **GRSC 602 - Cereal Science**
Credits: (3)
The characteristics of cereals, legumes, their components and their processing to foods.
Note
Three hours lecture a week.
Requisites
Recommended prerequisite: BIOCH 265.
When Offered Fall, Spring
UGE course No
K-State 8 Empirical and Quantitative Reasoning
Natural and Physical Sciences

TO: **GRSC 602 - Cereal Science**
Credits: (3)

The characteristics of cereals, legumes, their components and their processing to foods.

Note

Three hours lecture a week.

Requisites

Recommended prerequisite: BIOCH 265 or CHM 350 and 351.

When Offered Fall, Spring

UGE course No

K-State 8 Empirical and Quantitative Reasoning
Natural and Physical Sciences

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 635 - Baking Science I**

Credits: (2)

Introduction to chemical and physical properties of flour and other principal ingredients used in production of yeast-leavened bakery foods. Study of major processing methods for making yeasted doughs such as breads, sweet goods, frozen dough, and partially baked goods. Examination of ingredient specifications role of quality control, keeping properties of bread products, and nutritional attributes of various types of breads.

Note

Two hours lecture a week.

Requisites

Recommended prerequisite: BIOCH 265.

When Offered Fall

UGE course No

K-State 8 None

TO: **GRSC 635 - Baking Science I**

Credits: (2)

Introduction to chemical and physical properties of flour and other principal ingredients used in production of yeast-leavened bakery foods. Study of major processing methods for making yeasted doughs such as breads, sweet goods, frozen dough, and partially baked goods. Examination of ingredient specifications role of quality control, keeping properties of bread products, and nutritional attributes of various types of breads.

Note

Two hours lecture a week.

Requisites

Recommended prerequisite: BIOCH 265 or CHM 350 and 351.

When Offered Fall
UGE course No
K-State 8 None

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351.
CHM 350 and 351 are added to the recommended prerequisites to reflect this.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 645 - Pet Food Processing**

Credits: (4)

The course is designed to provide students with an understanding of pet foods, including food products meant for dogs, cats, pet rodents, pet snakes, ornamental fish, exotic and captive wild animals, and the various processing technologies that are deployed for their production. Extrusion, baking, canning, and injection molding technologies will be covered. Other important aspects of pet food production, such as ingredient handling and compounding, quality control, HACCP and sanitation, and packaging will also be discussed. A concurrent laboratory section will allow students to produce pet foods, visit pet food production facilities, and personally explore selected topics in depth.

Note

Three one-hour lectures and ~~one three-hour lab session~~ per week.

Requisites

Recommended prerequisite: CHM 230, PHYS 114, ASI 318 or HN 132, Junior standing.

When Offered Fall
UGE course No
K-State 8 None

TO: **GRSC 645 - Pet Food Processing**

Credits: (3)

The course is designed to provide students with an understanding of pet foods, including food products meant for dogs, cats, pet rodents, pet snakes, ornamental fish, exotic and captive wild animals, and the various processing technologies that are deployed for their production. Extrusion, baking, canning, and injection molding technologies will be covered. Other important aspects of pet food production, such as ingredient handling and compounding, quality control, HACCP and sanitation, and packaging will also be discussed. A concurrent laboratory section will allow students to produce pet foods, visit pet food production facilities, and personally explore selected topics in depth.

Note

Three one-hour lectures per week.

Requisites

Recommended prerequisite: CHM 230, PHYS 114, ASI 318 or HN 132, Junior standing.

When Offered Fall
UGE course No
K-State 8 None

RATIONALE: The lecture and lab components of this course are divided into two separate courses (GRSC 645 and 646). Thus the credit hour will change from 4 to 3. This split will provide flexibility in department's teaching assignments.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 661 - Qualities of Feed Ingredients**

Credits: (3)

The course provides an integrated biological, chemical, and physical basis for evaluating the inherent nutritional quality of food and feed ingredients and the scientific literature techniques for obtaining new information.

Note

Three hours lecture a week.

Requisites

Recommended prerequisite: BIOCH 265.

When Offered Spring

UGE course No

K-State 8 None

TO: **GRSC 661 - Qualities of Feed Ingredients**

Credits: (3)

The course provides an integrated overview of the physical, biological, and chemical characteristics of common feed ingredients. Quality control and evaluation of ingredients and complete feed is emphasized to ensure the productions of safe feed/safe food.

Note

Three hours lecture a week.

Requisites

Recommended prerequisite: GRSC 510 and 511, BIOCH 265 or CHM 350 and 351.

When Offered Spring

UGE course No

K-State 8 None

RATIONALE: The change involves some minor wordsmithing in course description. BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this. Also GRSC 510 and 511 are added to recommended prerequisites, which are critical to take prior to GRSC 661 to have a strong background in feed technology.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 690 - Feed Technology II**
Credits: (4)
Advanced study of engineering principles applicable to flour and feed plant operations, ~~materials handling~~, equipment selection, and processing systems.
Note
~~Three hours of lecture per week and three hours of laboratory per week. Separate laboratory sessions are conducted for flour and for feed students.~~
Requisites
~~Recommended prerequisite: GRSC 510 or 500, PHYS 114 or 214, and a course in statistics and computer applications.~~
When Offered Spring
UGE course No
K-State 8 None

TO: **GRSC 688 - Feed Technology II**
Credits: (3)
Advanced study of engineering principles applicable to flour and feed plant operations, equipment selection, and processing systems.
Note
Three hours lecture a week.
Requisites
Recommended prerequisite: GRSC 510 and GRSC 511 or GRSC 500, PHYS 114 or 214, and STAT 325.
When Offered Spring
UGE course No
K-State 8 None

RATIONALE: The lecture and lab components of this course are divided into two separate courses (GRSC 688 and 689). Thus the credit hour will change from 4 to 3. This split will provide flexibility in department's teaching assignments. The proposed change also involves a minor wordsmithing in course description.
With this split, the ideal new course numbering would be GRSC 690 and 691. Since 691 is the course number for another exiting GRSC course we needed to assign a new pair of numbers, i.e. 688 and 689.
STAT 325 is a core requirement for GSI majors. It is added to recommended prerequisites to be more specific and replace "a course in statistics".

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 691 - Faculty-Led Study Abroad**

Credits: 1-3

Seminar and travel course designed to prepare students before the experience and for students to analyze, critique, and report their experiences of an international experience associated with study tours or short courses.

Requisites

Prerequisite: Consent of instructor for undergraduates, consent of major professor for graduate students

When Offered Fall, Spring, Summer

UGE course No

K-State 8 None

TO: **GRSC 691 - Faculty-Led Study Abroad**

Credits: 1-3

Seminar and travel course designed to prepare students before the experience and for students to analyze, critique, and report their experiences of an international experience associated with study tours or short courses.

Requisites

Prerequisite: Consent of instructor for undergraduates, consent of major professor for graduate students.

When Offered Fall, Spring, Summer

UGE course No

K-State 8 Global Issues and Perspectives

RATIONALE: “Global Issues and Perfectives” tag is added to the course. New tagging rules for an *experience* (e.g. study abroad, internships or service learning) require at least 60 hours where the student is actively engaged in material related to that tag. GRSC 691 course content and activities justify this requirement.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 712 - Vibrational Spectroscopic Analysis and Chemometrics**

Credits: (1-2)

Infrared and particularly modern near-infrared spectroscopic “as-is” analysis of foods, natural products, and synthetic substances is accomplished with direct sampling and the use of multivariate statistics. This course is intended to enable the student to understand the principles and successfully apply this technology to practical analytical problems with emphasis upon food. Method development will be taught using specific analytes in selected products. Theoretical background, working of modern instrumentation and associated software is presented in support of achieving practical competence.

Requisites

Recommended prerequisite: BIOCH 265 or CHM ~~274~~.

When Offered Spring

UGE course No

K-State 8 None

TO: **GRSC 712 - Vibrational Spectroscopic Analysis and Chemometrics**

Credits: (1-2)

Infrared and particularly modern near-infrared spectroscopic analysis of foods, natural products, and synthetic substances is accomplished with direct sampling and the use of multivariate statistics. This course is intended to enable the student to understand the principles and successfully apply this technology to practical analytical problems with emphasis upon food. Method development will be taught using specific analytes in selected products. Theoretical background, working of modern instrumentation and associated software is presented in support of achieving practical competence.

Requisites

Recommended prerequisite: BIOCH 265 or CHM 350 and 351 or CHM 371.

When Offered Spring

UGE course No

K-State 8 None

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this. CHM 271 does not exist any more; it is replaced with CHM 371.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 713 - Contemporary Chromatographic Analysis of Food**

Credits: (1)

High performance liquid chromatography (HPLC) is the primary focus of this course. This will be supported by including treatment of topics in contemporary gas chromatography and supercritical fluid chromatography and extraction. Optimizing chromatographic conditions through knowledge of the column chemistry will be covered in addition to detector options, instrumentation, and sample preparation.

Requisites

Recommended prerequisite: BIOCH 265 or CHM ~~271~~.

When Offered Spring

UGE course No

K-State 8 None

TO: **GRSC 713 - Contemporary Chromatographic Analysis of Food**

Credits: (1)

High performance liquid chromatography (HPLC) is the primary focus of this course. This will be supported by including treatment of topics in contemporary gas chromatography and supercritical fluid chromatography and extraction. Optimizing chromatographic conditions through knowledge of the column chemistry will be covered in addition to detector options, instrumentation, and sample preparation.

Requisites

Recommended prerequisite: BIOCH 265 or CHM 350 and 351 or CHM 371.

When Offered Spring

UGE course No

K-State 8 None

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this. CHM 271 does not exist any more; it is replaced with CHM 371.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

FROM: **GRSC 745 - Fundamentals of Bioprocessing**

Credits: (3)

This course is designed for students who desire a clear understanding of bioprocessing principles as applied to the emerging bio-based industry. This course covers the fundamentals of mass and energy balances, fluid dynamics, heat and mass transfer, as applied to bioprocessing. The microbial growth, kinetics and fermenter operation will be covered in detail. Fundamentals of downstream operation as applicable to bioprocessing will be covered in this course. Industrial bioprocessing case studies that involve the integration of the course contents will be discussed.

Note

Three hours lecture per week.

Requisites

Recommended prerequisite: MATH 205 or 220, PHYS 113 or 115, and BIOCH 265 or CHM 210.

When Offered Spring

UGE course No

K-State 8 None

TO: **GRSC 745 - Fundamentals of Bioprocessing**

Credits: (3)

This course is designed for students who desire a clear understanding of bioprocessing principles as applied to the emerging bio-based industry. This course covers the fundamentals of mass and energy balances, fluid dynamics, heat and mass transfer, as applied to bioprocessing. The microbial growth, kinetics and fermenter operation will be covered in detail. Fundamentals of downstream operation as applicable to bioprocessing will be covered in this course. Industrial bioprocessing case studies that involve the integration of the course contents will be discussed.

Note

Three hours lecture per week.

Requisites

Recommended prerequisite: MATH 205 or 220, PHYS 113 or 115, and BIOCH 265 or CHM 350 and 351 or CHM 210.

When Offered Spring

UGE course No

K-State 8 None

RATIONALE: BSM, FSM and MSM curricula require BIOCH 265 or CHM 350 and 351. CHM 350 and 351 are added to the recommended prerequisites to reflect this.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2013

Horticulture, Forestry, and Recreation Resources

FROM: **HORT 690. Sustainable Agriculture.** (2) I (odd years). Historical perspectives of the sustainable agriculture movement in the U.S. and world-wide will be examined and critiqued. Components of sustainable agriculture such as agroecosystem theory, permaculture, energy use efficiency, and organic standards will be compared and evaluated. Students will demonstrate their understanding and application of the material by conducting research on a topic within sustainable agriculture and presenting the topic to the rest of the class. Required pre-rec: Junior standing.

TO: **HORT 790. Sustainable Agriculture.** (2) I (odd years). Historical perspectives of the sustainable agriculture movement in the U.S. and world-wide will be examined and critiqued. Components of sustainable agriculture such as agroecosystem theory, permaculture, energy use efficiency, and organic standards will be compared and evaluated. Students will demonstrate their understanding and application of the material by conducting research on a topic within sustainable agriculture and presenting the topic to the rest of the class. Required pre-rec: Junior standing.

RATIONALE: The course serves as a requirement for the M.S. specialization in Urban Food Systems thus most of the students taking this course are graduate students. Changing the course numbering to a 700-level course better reflects its graduate level delivery.

IMPACT: No impact on other units.

EFFECTIVE DATE: Fall 2013

FROM: **HORT 691. Urban Agriculture.** (3) I. Students will become familiar with ~~and understand different types of urban agriculture projects, how they came about, management issues, and the socio-economic and policy context that allows or encourages them to exist.~~ Required Pre-rec: Junior standing.

TO: **HORT 791. Urban Agriculture.** (3) I. Students will become familiar with a wide variety of urban agriculture types, methods of implementation, and the skill sets necessary to supervise such projects. The course will include background readings, case studies, guest speakers, student-facilitated class discussion, and lectures. Required Pre-rec: Junior standing.

RATIONALE: The course serves as a requirement for the M.S. specialization in Urban Food

Systems thus most of the students taking this course are graduate students. Changing the course numbering to a 700-level course better reflects its graduate level delivery.

IMPACT: No impact on other units.

EFFECTIVE DATE: Fall 2013

FROM: **HORT 692. Urban Food Production Practicum.** (2) I, II, S. Students will complete a ~~400-hour~~ practicum in an approved urban agriculture setting to gain exposure to a broad range of tasks facing the urban farmer. This includes planning, production and marketing of crops in high tunnels and open field. Recommended pre-req: HORT 520 and HORT 560.

TO: **HORT 792. Urban Food Production Practicum.** (2) I, II, S. Students will complete a practicum in an approved urban agriculture setting to gain exposure to a broad range of tasks facing the urban farmer. This includes planning, production and marketing of crops in high tunnels and open field. Recommended pre-req: HORT 520 and HORT 560.

RATIONALE: The course serves as a requirement for the M.S. specialization in Urban Food Systems thus most of the students taking this course are graduate students. Changing the course numbering to a 700-level course better reflects its graduate level delivery.

IMPACT: No impact on other units.

EFFECTIVE DATE: Fall 2013.

Sociology, Anthropology, and Social Work

FROM: **SOCIO 744 – Social Gerontology: An Introduction to the Sociology of Aging.** (3) II. Analysis of the phenomenon of human aging in its individual, social, and cultural aspects with special attention to the problems of aging populations in Western societies. Pr.: SOCIO 211

TO: **SOCIO 544 - Social Gerontology: An Introduction to the Sociology of Aging.** (3) II. Analysis of the phenomenon of human aging in its individual, social, and cultural aspects with special attention to the problems of aging populations in Western societies. Pr.: SOCIO 211

RATIONALE: Over the past years an increasing demand emerged for an upper level undergraduate course on social gerontology or the sociology of aging. An undergraduate version of SOCIO 744 was taught before as a 500 level topic class. At the same time, demand has not been present for the graduate version of this class. Therefore, we ask to change the number of the course from 744 to 544. Although technically undergraduates can take 700 level classes, in practice most of them would not do so. Socio 744 is

currently scheduled for Spring 2013, an expedited process is requested so that this change could take place by next semester. The number is the only element we ask to be changed; everything else in the catalog would remain unchanged.

IMPACT: None

EFFECTIVE DATE: Spring 2013

Non-Expedited Course Drops

DROP: **FDSCI 607. Food Microbiology.** (4). Fall. This course deals with the identification, enumeration and characterization of bacteria, yeast and mold associated with foods and food processing. Effects of physical and chemical agents on microorganisms will be studied. Microbiological problems in food spoilage, food preservation, food fermentation, and food-borne diseases will be discussed. Two hours lecture and two two-hour labs a week.

RATIONALE: Food Microbiology is currently offered both on-campus and by distance, but under two different course numbers to reflect the difference of a 2 credit hour laboratory for on-campus students. The campus-based offering, FDSCI 607, is a 4-credit course comprised of both a lecture and a laboratory section (2-credits of lecture and 2-credits of lab). The distance offering, FDSCI 600, is a 2-credit course comprised of lecture containing the same content and material that is taught in the lecture portion of FDSCI 607. This proposal will separate FDSCI 607 into lecture (FDSCI 600) and laboratory (FDSCI 601) courses, thereby changing Food Microbiology from a single 4-credit hour course into two 2-credit hour courses. The benefits of this proposed change include enhanced options and greater flexibility for students, ability to more effectively manage enrollment capacity, more appropriate application of pre-requisites, greater ability to accommodate increasing demand driven by programmatic growth, and harmonization of course numbers for campus- and distance-based course offerings.

IMPACT: The Department of Grain Science and Industry has been contacted and has no objections.

EFFECTIVE DATE: Fall 2013

CURRICULUM CHANGES

Horticulture, Forestry and Recreational Resources Horticultural Therapy Graduate Certificate

FROM:	TO:
HORT 751 Human Issues in Horticultural Therapy (3)	HORT 751 Human Issues in Horticultural Therapy (3)
HORT 752 Horticulture in Horticultural Therapy (3)	HORT 752 Horticulture in Horticultural Therapy (3)
HORT 753 Clinical Skills in Horticultural Therapy (6)	HORT 753 Clinical Skills in Horticultural Therapy (3)
HORT 755 Practicum in Horticultural Therapy (3)	HORT 755 Practicum in Horticultural Therapy (3)
Total Credits (15)	Total Credits (<u>12</u>)

RATIONALE: The reduction in total credits is due to a change in the credit amount for HORT 753 from 6 credits to 3 credits that is also proposed in the expedited document. As a 6 credit course, students were expected to attend 2 5-day on-site sessions in early summer and again in early fall, with online work following each on-site session. Online modules have been developed to guide students in obtaining a variety of clinical experiences where they reside, thus the in-person sessions are no longer required. A 3-credit course better reflects the time commitment given the change in class structure. This program has been offered for 5 semesters. The proposed changes reflect experience from delivering the program for 5 semesters, student feedback, instructor feedback, and perspective student queries.

IMPACT: No impacts outside the department.

EFFECTIVE DATE: Fall 2013

Geographic Information Science Graduate Certificate

FROM:

The course requirements for the Graduate Certificate in GIScience are shown below. ~~A maximum of 6 transfer credit hours may be used to meet program requirements.~~ Students must earn a minimum GPA of 3.33 in the Geospatial Core to ~~qualify for the Graduate Certificate in GIScience.~~ ~~The graduate faculty for the program will periodically review the certificate requirements and have the authority to pass modifications to the approved list of courses.~~

Prerequisites:

Competence in cartography, thematic mapping, or geodesy (e.g., GEOG 302)
 Competence in basic statistics (e.g., STAT 320, STAT 330, STAT 350)
 Competence in object-oriented computer programming (e.g., ~~Visual Basic for Applications~~)

Geospatial Core (9 credit hours):

GEOG 508 Geographic Information Systems I (4)
 GEOG 605 Remote Sensing of the Environment (3)
 GEOG 608 Geographic Information Systems II (3)

Elective courses – Select two (minimum of 6 credit hours):

AGRON 655 Site-Specific Agriculture (3)
 CE 585 Civil Engineering Project (1-3)
 CIS 501 Software Architecture and Design (3)
 CIS 560 Database System Concepts (3)
 CIS 635 Introduction to Computer-based Knowledge Systems (3)
 CIS 636 Introduction to Computer Graphics (3)

TO:

The course requirements for the Graduate Certificate in GIScience are shown below. A minimum of 15 graduate credit hours is required to earn the certificate. A maximum of two geospatial core courses may be waived and replaced with approved electives in cases where students have completed prior coursework for undergraduate credit. A minimum of 12 hours at the 600-level or higher is required. Students must earn a minimum GPA of 3.33 in the geospatial core to earn the certificate.

Prerequisites:

Competence in cartography, thematic mapping, or geodesy, or geomatics (e.g., GEOG 302)
 Competence in basic statistics (e.g., STAT 320, STAT 330, STAT 350)
 Competence in object-oriented computer programming (e.g., Python)

Geospatial Core (10 credit hours)

GEOG 508 Geographic Information Systems I (4)
 GEOG 605/AGRON 706 Remote Sensing of the Environment (3)
 GEOG 608 Geographic Information Systems II (3)

Elective courses – Select two (minimum of 6 credit hours):

AGRON 655 Site-Specific Agriculture (3)
BAE 869 Advanced Watershed Modeling (3)
 CE 585 Civil Engineering Project (1-3)
CE 752 Advanced Hydrology (3)
CE 786 Land Development for Civil Engineers and Planners (3)
 CIS 501 Software Architecture and Design (3)
 CIS 560 Database System Concepts (3)
 CIS 635 Introduction to Computer-based

DAS/DEN/GENAG 582— Natural Resources/Environmental Science Project (NRES) (3) GEOL 560 Field Methods (3) GEOG 602 Computer Mapping and Geographic Visualization (3) GEOG 610 Geography Internship (1-3) GEOG 700 Quantitative Analysis in Geography (3) GEOG 711 Topics in Remote Sensing (3) GEOG 795 Topics in Geographic Information Science (1-3) GEOG 808 Geocomputation (3) GEOG 880 Spatial Data Analysis and Modeling (3) GEOG 895 Topics in Spatial Analysis (1-3) LAR 758 Land Resource Information Systems (3)	Knowledge Systems (3) CIS 636 Introduction to Computer Graphics (3) GEOL 560 Field Methods (3) GEOG 602 Computer Mapping and Geographic Visualization (3) GEOG 610 Geography Internship (1-3) GEOG 700 Quantitative Analysis in Geography (3) GEOG 711 Topics in Remote Sensing (3) <u>GEOG 712 Internet GIS and Distributed GIServices (3)</u> GEOG 795 Topics in Geographic Information Science (1-3) GEOG 808 Geocomputation (3) GEOG 880 Spatial Data Analysis and Modeling (3) <u>GEOG 890 Advanced Spatial Analysis Techniques (3)</u> GEOG 895 Topics in Spatial Analysis (1-3) <u>LAR 704 Environmental Landscape Planning and Design (5)</u> <u>PLAN 801 Planning Methods I (3)</u> <u>PLAN 836 Community Plan Preparation (3)</u> <u>STAT 703 Statistical Methods for Natural Scientists (3)</u> <u>STAT 704 Analysis of Variance (2)</u> <u>STAT 705 Regression and Correlation Analysis (2)</u>
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RATIONALE: This is a routine update of the Geographic Information Science Graduate Certificate to reflect recent changes in course names/numbers and cross-listings, as well as to expand the list of pre-approved elective courses. Due to previously approved credit hour change to one of the geospatial core courses (GEOG 508), the total credit hour requirement can now range between 15 to 16 hours, with a minimum of 15 required to earn the certificate.

IMPACT: BAE, CE, LAR, PLAN, STAT

EFFECTIVE DATE: Spring 2013

**Chemical Engineering
Air Quality Graduate Certificate**

From:

To:

<p>Air Quality Courses</p> <hr/> <p>Certification requirements</p> <hr/> <p>The course requirements for the certificate program in air quality are as follows:</p> <ol style="list-style-type: none">1. For the Ph.D. degree, 15 credit hours are required including two credits of Air Quality Seminar, at least one course which includes safety and health/toxicology, at least one course which includes air quality measurement and characterization, and at least one course which includes air quality management and control. To fulfill the interdisciplinary objectives of the program, the course list should include courses from at least three academic departments.2. For the M.S. degree, 12 credit hours are required including one credit of Air Quality Seminar and courses from at least two of the three areas required for the Ph.D. The course list should include courses from at least three different departments. <p>It is expected that special topics courses in air quality will be approved for the certificate program by the air quality graduate education committee upon request following the procedure described below.</p> <hr/> <p>Courses in Safety and Health/Toxicology</p> <hr/> <ul style="list-style-type: none">• DMP 650 - Fundamentals of Public Health and Food Safety Credits: (3)	<p>Air Quality Courses</p> <hr/> <p>Certification requirements</p> <hr/> <p>The course requirements for the certificate program in air quality are as follows:</p> <ol style="list-style-type: none">1. For the Ph.D. degree, 15 credit hours are required including two credits of Air Quality Seminar, at least one course which includes safety and health/toxicology, at least one course which includes air quality measurement and characterization, and at least one course which includes air quality management and control. To fulfill the interdisciplinary objectives of the program, the course list should include courses from at least three academic departments.2. For the M.S. degree, 12 credit hours are required including one credit of Air Quality Seminar and courses from at least two of the three areas required for the Ph.D. The course list should include courses from at least three different departments. <p>It is expected that special topics courses in air quality will be approved for the certificate program by the air quality graduate education committee upon request following the procedure described below.</p> <hr/> <p>Courses in Safety and Health/Toxicology</p> <hr/> <ul style="list-style-type: none">• DMP 650 - Fundamentals of Public Health and Food Safety Credits: (3)
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- DMP 801 - Toxicology **Credits:** (2)
- DMP 805 - Toxins in the Biological System **Credits:** (2)
- DMP 806 - Environmental Toxicology **Credits:** (2)
- DMP 807 - Current Topics in Toxicology **Credits:** (2)
- FDSCI 915 - Food Toxicology **Credits:** (2)
- IMSE 610 - Occupational Safety Engineering **Credits:** (3)

Courses in Measurement and Characterization

- AGRON 901 - Environmental Instrumentation **Credits:** (1)
- ASI 864 - Analytical Techniques-Immunoassays **Credits:** (1)
- BAE 811 - Particle Technology **Credits:** (3)
- CHM 566 - Instrumental Methods of Analysis **Credits:** (3)
- FDSCI 713 - Rapid Methods and Automation in Microbiology **Credits:** (2)
- GEOG 608 - Geographic Information Systems II **Credits:** (3)
- GEOG 711 - Topics in Remote Sensing **Credits:** (3)

Courses in Management and Control

- BAE 651 - Air Pollution Engineering **Credits:** (3)
- FDSCI 791 - Advanced Application of HACCP Principles **Credits:** (3)
- ME 622 - Indoor Environmental

- DMP 801 - Toxicology **Credits:** (2)
- DMP 805 - Toxins in the Biological System **Credits:** (2)
- DMP 806 - Environmental Toxicology **Credits:** (2)
- DMP 807 - Current Topics in Toxicology **Credits:** (2)
- FDSCI 915 - Food Toxicology **Credits:** (2)
- IMSE 610 - Occupational Safety Engineering **Credits:** (3)
- GENAG 711 – Occupational and Agricultural Health **Credits:** (3)

Courses in Measurement and Characterization

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- ASI 864 - Analytical Techniques-Immunoassays **Credits:** (1)
- BAE 811 - Particle Technology **Credits:** (3)
- CHM 566 - Instrumental Methods of Analysis **Credits:** (3)
- FDSCI 713 - Rapid Methods and Automation in Microbiology **Credits:** (2)
- GEOG 608 - Geographic Information Systems II **Credits:** (3)
- GEOG 711 - Topics in Remote Sensing **Credits:** (3)

Courses in Management and Control

- BAE 651 - Air Pollution Engineering **Credits:** (3)
- FDSCI 791 - Advanced Application of HACCP Principles **Credits:** (3)
- ME 622 - Indoor Environmental

<p>Engineering Credits: (3)</p> <ul style="list-style-type: none"> • ME 721 - Thermal Systems Design Credits: (3) • ME 722 - Human Thermal Engineering Credits: (3) <p>Supporting Courses</p> <hr/>	<p>Engineering Credits: (3)</p> <ul style="list-style-type: none"> • ME 721 - Thermal Systems Design Credits: (3) • ME 722 - Human Thermal Engineering Credits: (3) <p>Supporting Courses</p> <hr/>
<ul style="list-style-type: none"> • AGRON 746 - Physical Properties of Soils Credits: (3) • AGRON 900 - Micrometeorology Credits: (3) • ASI 720 - Anaerobic Bacteriology Credits: (2) • BIOL 604 - Biology of the Fungi Credits: (3) • BIOL 687 - Microbial Ecology Credits: (3) • BIOL 805 - Advanced Mycology Credits: (3) • CE 967 - Physicochemical Processes Credits: (3) • CHE 682 - Surface Phenomena Credits: (3) • CHE 750 - Air Quality Seminar Credits: (1) • CHE 862 - Advanced Transport Phenomena I Credits: (3) • CHE 910 - Selected Topics in Transport Phenomena Credits: (3) • CHM 856 - Chemical Kinetics Credits: (3) • CHM 937 - Applications of Surface Science to Chemistry Credits: (3) • ENTOM 620 - Insecticides: Properties and Laws Credits: (2) • FDSCI 695 - Quality Assurance of Food Products Credits: (3) • GEOG 735 - Topics in Climatology Credits: (3) 	<ul style="list-style-type: none"> • AGRON 746 - Physical Properties of Soils Credits: (3) • AGRON 900 - Micrometeorology Credits: (3) • ASI 720 - Anaerobic Bacteriology Credits: (2) • BIOL 604 - Biology of the Fungi Credits: (3) • BIOL 687 - Microbial Ecology Credits: (3) • BIOL 805 - Advanced Mycology Credits: (3) • CE 967 - Physicochemical Processes Credits: (3) • CHE 682 - Surface Phenomena Credits: (3) • CHE 750 - Air Quality Seminar Credits: (1) • CHE 862 - Advanced Transport Phenomena I Credits: (3) • CHE 910 - Selected Topics in Transport Phenomena Credits: (3) • CHM 856 - Chemical Kinetics Credits: (3) • CHM 937 - Applications of Surface Science to Chemistry Credits: (3) • ENTOM 620 - Insecticides: Properties and Laws Credits: (2) • FDSCI 695 - Quality Assurance of Food Products Credits: (3) • GEOG 735 - Topics in Climatology Credits: (3)

<ul style="list-style-type: none"> • GEOG 760 - Human Impact on the Environment Credits: (3) • GEOG 890 - Advanced Spatial Analysis Techniques Credits: (3) • GEOL 712 - Advanced Geochemistry Credits: (3) • ME 720 - Intermediate Fluid Mechanics Credits: (3) • ME 831 - Boundary Layer Theory Credits: (3) • PHYS 651 - Introduction to Optics Credits: (4) • PHYS 652 - Applied Optics and Optical Measurement Credits: (3) 	<ul style="list-style-type: none"> • GEOG 760 - Human Impact on the Environment Credits: (3) • GEOG 890 - Advanced Spatial Analysis Techniques Credits: (3) • GEOL 712 - Advanced Geochemistry Credits: (3) • ME 720 - Intermediate Fluid Mechanics Credits: (3) • ME 831 - Boundary Layer Theory Credits: (3) • PHYS 651 - Introduction to Optics Credits: (4) • PHYS 652 - Applied Optics and Optical Measurement Credits: (3)
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Rationale: This is a good course to add to the list.

Impact (i.e. if this impacts another unit): College of Agriculture has approved adding this course.

Effective Date: Fall 2013