Attachment 1

Consent Agenda items
May 8, 2012
Faculty Senate meeting

COLLEGE OF HUMAN ECOLOGY (approved 3-13-12)

Department of Apparel, Textiles, and Interior Design
Changes to the BS in Apparel and Textiles

CHANGE FROM:	CHANGE TO:
GENERAL REQUIREMENTS (42-44 Hours)	**GENERAL REQUIREMENTS (42-44 Hours)**
Communications (8-9 Hours)	**Communications (8-9 Hours)**
COMM 105 (2) Public Speaking IA	COMM 105 (2) Public Speaking IA
OR	**OR**
COMM 106 (3) Public Speaking I	COMM 106 (3) Public Speaking I
ENGL 100 (3) Expository Writing I	ENGL 100 (3) Expository Writing I
ENGL 200 (3) Expository Writing II	ENGL 200 (3) Expository Writing II
Quantitative Studies (9 Hours)	**Quantitative Studies (9 Hours)**
CIS 101 (1) Introduction to Computing Systems, Information Search, and Security	CIS 101 (1) Introduction to Computing Systems, Information Search, and Security
CIS 102 (1) Introduction to Spreadsheet Applications	CIS 102 (1) Introduction to Spreadsheet Applications
CIS 104 (1) Introduction to Word Processing Applications	CIS 104 (1) Introduction to Word Processing Applications
MATH 100 (3) College Algebra	MATH 100 (3) College Algebra
STAT 325 (3) Introduction to Statistics	STAT 325 (3) Introduction to Statistics
OR	**OR**
STAT 350 (3) Business and Economic Statistics I	STAT 350 (3) Business and Economic Statistics I
Social Sciences (9 Hours)	**Social Sciences (9 Hours)**
ECON 110 (3) Principles of Macroeconomics	ECON 110 (3) Principles of Macroeconomics
PSYCH 110 (3) General Psychology	PSYCH 110 (3) General Psychology
SOCIO 211 (3) Introduction to Sociology	SOCIO 211 (3) Introduction to Sociology
Humanities (6 Hours)	**Humanities (6 Hours)**
History elective (3)	History elective (3)
Humanities elective (3)	Humanities elective (3)
Natural Sciences (7-8 Hours)	**Natural Sciences (7-8 Hours)**
Include one course in life science and one course in physical science; one course must have a laboratory.	*Include one course in life science and one course in physical science; one course must have a laboratory.*
Life Science Elective (3-4)	Life Science Elective (3-4)
Physical Science Elective (3-4)	Physical Science Elective (3-4)
Additional Integrative Studies (3 Hours)	**Additional Integrative Studies (3 Hours)**
FSHS 350 (3) Family Relationship and Gender Roles	FSHS 350 (3) Family Relationship and Gender Roles
OR	**OR**
GNHE 310 (3) Human Needs	GNHE 310 (3) Human Needs
>**PROFESSIONAL STUDIES (~~68~~-74 Hours)**	>**PROFESSIONAL STUDIES (<u>71</u>-74 Hours)**
> Apparel and Textile Core Courses (35 Hours)	**> Apparel and Textile Core Courses (35 Hours)**
AT 110 (1) Apparel and Textile Orientation	AT 110 (1) Apparel and Textile Orientation
AT 245 (3) Apparel and Textile Industry	AT 245 (3) Apparel and Textile Industry
AT 265 (3) Textiles	AT 265 (3) Textiles
AT 330 (3) Apparel Consumers and Society	AT 330 (3) Apparel Consumers and Society
AT 340 (3) Aesthetics of Apparel and Textiles	AT 340 (3) Aesthetics of Apparel and Textiles
AT 430 (3) History of Apparel Fashion: Renaissance to Present	AT 430 (3) History of Apparel Fashion: Renaissance to Present
AT 445 (3) Professional Development	AT 445 (3) Professional Development
AT 460 (3) Apparel and Textile Evaluation	AT 460 (3) Apparel and Textile Evaluation
AT 545 (3) Global Apparel and Textile Production and Distribution	AT 545 (3) Global Apparel and Textile Production and Distribution
AT 550 (4) Apparel and Textile Internship	AT 550 (4) Apparel and Textile Internship
AT 575 (3) Principles of Forecasting	AT 575 (3) Principles of Forecasting
AT 645 (3) Private Label Apparel Product Development	AT 645 (3) Private Label Apparel Product Development
Choose one or both of the specializations in: Apparel Design and Production or Apparel Marketing. Consult the Departmental website for advancement criteria for the ADP specialization.	***Choose one or both of the specializations in: Apparel Design and Production or Apparel Marketing. Consult the Departmental website for advancement criteria for the ADP specialization.***
>Specialization in Apparel Design and Production (39 Hours)	**>Specialization in Apparel Design and Production (39 Hours)**
Advancement to the ADP specialization is selective and based on performance criteria.	***Advancement to the ADP specialization is selective and based on performance criteria.***
ART 100 (3) 2- Dimensional Design	ART 100 (3) 2- Dimensional Design

ART 190 (3) Drawing I ART 195 (3) Survey of Art History I ART 196 (3) Survey of Art History II ART 200 (3) 3-Dimensional Design AT 300 (3) Apparel Production I AT 400 (3) Fashion Illustration AT 410 (3) Apparel Production II AT 610 (3) Computer-Aided Design of Apparel AT 655 (3) Apparel Pattern Development I AT 670 (3) Apparel Pre-Production Processes AT 695 (3) Apparel Pattern Development II **Select ONE Art History course from the following:** ART 545 (3) Twentieth Century Art History I ART 550 (3) Twentieth Century Art History II ART 602 (3) Twentieth Century Art History III ART 603 (3) Twentieth Century Art History IV	ART 190 (3) Drawing I ART 195 (3) Survey of Art History I ART 196 (3) Survey of Art History II ART 200 (3) 3-Dimensional Design AT 300 (3) Apparel Production I AT 400 (3) Fashion Illustration AT 410 (3) Apparel Production II AT 610 (3) Computer-Aided Design of Apparel AT 655 (3) Apparel Pattern Development I AT 670 (3) Apparel Pre-Production Processes AT 695 (3) Apparel Pattern Development II **Select ONE Art History course from the following:** ART 545 (3) Twentieth Century Art History I ART 550 (3) Twentieth Century Art History II ART 602 (3) Twentieth Century Art History III ART 603 (3) Twentieth Century Art History IV
>Specialization in Apparel Marketing (~~33 Hours~~) ACCTG 231 (3) Accounting for Business Operations AT 325 (3) Apparel and Textile Store Operation AT 576 (3) Principles of Buying AT 625 (3) Apparel and Textile Business Strategy AT 675 (3) Computer Technologies for Merchandising ECON 120 (3) Principles of Microeconomics MANGT 420 (3) Management Concepts MKTG 400 (3) Introduction to Marketing **In addition, select 9 credits from the following:** ACCTG 241 (3) Accounting for Investing and Financing ECON 520 (3) Intermediate Microeconomics FINAN 450 (3) Principles of Finance MANGT 520 (3) Organizational Behavior MANGT 531 (3) Human Resources Management **OR** PSYCH 560 (3) Industrial Psychology MC 120 (3) Principles of Advertising MC 180 (3) Fundamentals of Public Relations MKTG 542 (3) Professional Selling and Sales Management MKTG 544 (3) International Marketing MKTG 545 (3) Marketing Channels MKTG 635 (3) Electronic Marketing PSYCH 425 (3) Problem Solving and Decision Making Modern Languages (3-6) Apparel and Textiles elective (1-6) **UNRESTRICTED ELECTIVES (7-~~15~~ Hours)** **125 Hours Required for Graduation** **>Grades of "C" or higher are required**	**>Specialization in Apparel Marketing (<u>36 Hours</u>)** ACCTG 231 (3) Accounting for Business Operations AT 325 (3) Apparel and Textile Store Operation AT 576 (3) Principles of Buying AT 625 (3) Apparel and Textile Business Strategy AT 675 (3) Computer Technologies for Merchandising ECON 120 (3) Principles of Microeconomics MANGT 420 (3) Management Concepts MKTG 400 (3) Introduction to Marketing <u>MKTG 450 (3) Consumer Behavior</u> **In addition, select 9 credits from the following:** ACCTG 241 (3) Accounting for Investing and Financing ECON 520 (3) Intermediate Microeconomics FINAN 450 (3) Principles of Finance MANGT 520 (3) Organizational Behavior MANGT 531 (3) Human Resources Management **OR** PSYCH 560 (3) Industrial Psychology MC 120 (3) Principles of Advertising MC 180 (3) Fundamentals of Public Relations MKTG 542 (3) Professional Selling and Sales Management MKTG 544 (3) International Marketing MKTG 545 (3) Marketing Channels MKTG 635 (3) Electronic Marketing PSYCH 425 (3) Problem Solving and Decision Making Modern Languages (3-6) Apparel and Textiles elective (1-6) **UNRESTRICTED ELECTIVES (7-<u>12</u> Hours)** **125 Hours Required for Graduation** **>Grades of "C" or higher are required**

Rationale: The addition of MKTG 450 to the professional studies of the apparel marketing students will permit the program to enhance student learning outcomes.

Impact: Student enrollment numbers will increase in MKTG 450. The department head from ATID has obtained approval from the Department of Marketing for this curriculum change.

Effective Date: Fall 2012

COLLEGE OF AGRICULTURE (approved 3-15-12)

COURSE CHANGES

General Agriculture

ADD: GENAG 210. Human and Cultural Diversity in the Food and Agricultural Sciences. (3) II. The purpose of this course is to introduce students to the concepts of diversity by learning about cultural awareness, issues and the historical contributions made by different ethnic groups to the field of agriculture. K-State 8 Areas: Human Diversity within the U.S.; Historical Perspectives.

RATIONALE: Cultural differences have a profound effect on food preferences and minorities in the agricultural workplace. Students need an understanding of the impact cultural diversity has on food choices and production practices, as well as an appreciation of the positive impact minorities have had on the food and agricultural sciences.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Spring 2013

Agricultural Communications and Journalism

ADD: AGCOM 210 Agricultural Layout & Print Production Techniques. Lec. (3) II. In-depth, integrated use of leading industry-adopted software (such as Adobe Creative Suite) to develop printed communications pieces to the point of being printed, addressing layout aspects and file preparation critical to successfully printing a project. Assignments focus on developing communications tools for use in agricultural strategic and data-driven communications programs, which includes working with University Printing to troubleshoot print production issues, set up documents for variable data printing, digital versus offset printing considerations, 4-color versus 2-color and other printing technologies, and produce print plates. Pre-req: AGCOM 110. K-State 8: Aesthetic Experience, Interpretive Understanding.

RATIONALE: Agricultural Communications and Journalism students enter a variety of careers, requiring proficiency in the comprehensive and integrated use of layout software to successfully develop and produce printed materials. This course will give students an in-depth working knowledge of the latest industry-standard software so they can excel in upper-level courses in the curriculum that applies these skills, in internships and student work experiences, and in entry-level agricultural communications positions. There is not a course at KSU that combines this depth and breadth of software proficiency in multiple communications media and addresses the technologies of today's printing processes.

IMPACT: Charles Pearce, Mass Communications and Journalism was contacted, and he has responded by email and a follow up meeting to clarify the changes took place.

EFFECTIVE DATE: Fall 2012

ADD: AGCOM 425. Undergraduate Research in Agricultural Communications. Rsh. (1-3) I, II, S. This course uses qualitative, quantitative or mixed methods to conduct an agricultural and environmental communications research project. A faculty coordinator will assist students through the stages of conducting a research project and reporting its outcomes. Pre-req: Instructor permission. K-State 8: Empirical and Quantitative Reasoning.

RATIONALE: Agricultural Communications and Journalism students go into varying careers and graduate programs post-graduation. These positions often require students to have an understanding of the scientific method and critical thinking skills. In addition, many ACJ students have an interest in conducting communications research but are not members of the College of Agriculture Scholars program or the University Honors program. This course provides them an opportunity to develop and employ research skills and to earn academic credit for their work. There is not a course in our program that allows ACJ faculty to work with undergraduate research projects and that provides students an opportunity to systematically work through a research project.

IMPACT: Charles Pearce, Mass Communications and Journalism was contacted, and he has responded by email and a follow up meeting to clarify the changes took place.

EFFECTIVE DATE: Fall 2012

CURRICULUM CHANGES

Agricultural Economics

B.S. in Agriculture: Agricultural Economics Major
Specialty Option: Pre-Vet

FROM:	TO:
Agricultural Economics (~~30~~ credit hours)	Agricultural Economics (33 credit hours)
AGEC 105 - Agricultural Economics and Agribusiness Orientation (1)	AGEC 105 - Agricultural Economics and Agribusiness Orientation (1)
	AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness (2)
AGEC 120 - Agricultural Economics and Agribusiness (3) or AGEC 121 - Honors Agricultural Economics and Agribusiness (3)	AGEC 120 - Agricultural Economics and Agribusiness (3) or AGEC 121 - Honors Agricultural Economics and Agribusiness (3)
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems (3)	AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems (3)
AGEC 318 - Food and Agribusiness Management (3)	AGEC 318 - Food and Agribusiness Management (3)
~~AGEC 490 - Computer Applications in Agricultural Economics and Agribusiness (2)~~	
AGEC 500 - Production Economics (3)	AGEC 500 - Production Economics (3)
	AGEC 501 - Data Analysis and Optimization (3)

AGEC 505 - Agricultural Market Structures (3) AGEC 513 - Agricultural Finance (3) AGEC 515 - Food and Agribusiness Marketing (3) AGEC 516 - Agricultural Law and Economics (3) AGEC 599 - Food and Agribusiness Management Strategies (3) Agricultural Economics Electives (~~6~~ credit hours) AGEC 598 - Farm Management Strategies (3) AGEC 605 - Price Analysis and Forecasting (3) AGEC 610 - Current Agriculture and Natural Resource Policy Issues (3) AGEC 615 - Global Agricultural Development (3) AGEC 623 - International Agricultural Trade : (3) AGEC 632 - Agribusiness Logistics (3) AGEC 680 - Risk Management (3) AGEC 710 - Comparative Food and Agriculture Systems (3) AGEC 712 - Optimization Techniques for Agricultural Economics (3) ECON 631 - Principles of Transportation (3) GENAG 515 - Honors/Scholars Project (2) Agricultural and Food Science Technology (6 credit hours) ASI 500 - Genetics (3) Agricultural and Food Science Technology elective (3) Select from: ASI 102 - Principles of Animal Science (3) ASI 105 - Animal Sciences and Industry (1) ASI 106 - Dairy and Poultry Science (1) ASI 318 - Fundamentals of Nutrition (3) ASI 320 - Principles of Feeding Credits: (3) ASI 520 - Companion Animal Management (3) FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) See department list for other courses. Communication (14 credit hours)	AGEC 505 - Agricultural Market Structures (3) AGEC 513 - Agricultural Finance (3) AGEC 515 - Food and Agribusiness Marketing (3) AGEC 516 - Agricultural Law and Economics (3) AGEC 599 - Food and Agribusiness Management Strategies (3) Agricultural Economics Electives (<u>3</u> credit hours) AGEC 598 - Farm Management Strategies (3) AGEC 605 - Price Analysis and Forecasting (3) AGEC 610 - Current Agriculture and Natural Resource Policy Issues (3) AGEC 615 - Global Agricultural Development (3) AGEC 623 - International Agricultural Trade (3) AGEC 632 - Agribusiness Logistics (3) AGEC 680 - Risk Management (3) AGEC 710 - Comparative Food and Agriculture Systems (3) AGEC 712 - Optimization Techniques for Agricultural Economics (3) ECON 631 - Principles of Transportation (3) GENAG 515 - Honors/Scholars Project (2) Agricultural and Food Science Technology (6 credit hours) ASI 500 - Genetics (3) Agricultural and Food Science Technology elective (3) Select from: ASI 102 - Principles of Animal Science (3) ASI 105 - Animal Sciences and Industry (1) ASI 106 - Dairy and Poultry Science (1) <u>ASI 107 – Equine Science (1)</u> ASI 318 - Fundamentals of Nutrition (3) ASI 320 - Principles of Feeding (3) ASI 520 - Companion Animal Management (3) FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) See department list for other courses. Communication (14 credit hours)

ENGL 100 - Expository Writing I (3)	ENGL 100 - Expository Writing I (3)
ENGL 200 - Expository Writing II (3)	ENGL 200 - Expository Writing II (3)
COMM 105 - Public Speaking IA (2)	COMM 105 - Public Speaking IA (2)
Communication elective (3) Select from: English (above 200), Communication studies (above 300) or a modern language	Communication elective (3) Select from: English (above 200), Communication studies (above 300) or a modern language
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)
Economics/Business (12 credit hours)	Economics/Business (12 credit hours)
ECON 110 - Principles of Macroeconomics (3)	ECON 110 - Principles of Macroeconomics (3)
ECON 510 - Intermediate Macroeconomics (3)	ECON 510 - Intermediate Macroeconomics (3)
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)
	Finance Overlay
	AGEC 513 - Agricultural Finance (3) or FINAN 450 - Principles of Finance (3)
Mathematics/Statistics (9 credit hours)	Mathematics/Statistics (9 credit hours)
MATH 100 - College Algebra (3)	MATH 100 - College Algebra (3)
MATH 205 - General Calculus and Linear Algebra (3)	MATH 205 - General Calculus and Linear Algebra (3)
~~STAT 325 - Introduction to Statistics (3)~~	STAT 350 - Business and Economic Statistics I (3)
Natural Sciences (32 credit hours)	Natural Sciences (32 credit hours)
BIOCH 521 - General Biochemistry (3)	BIOCH 521 - General Biochemistry (3)
BIOL 198 - Principles of Biology (4)	BIOL 198 - Principles of Biology (4)
BIOL 455 - Microbiology (4)	BIOL 455 - Microbiology (4)
CHEM 210 - Chemistry I (4)	CHEM 210 - Chemistry I (4)
CHEM 230 - Chemistry II (4)	CHEM 230 - Chemistry II (4)
CHEM 350 - General Organic Chemistry (3)	CHEM 350 - General Organic Chemistry (3)
CHEM 351 - General Organic Chemistry Laboratory (2)	CHEM 351 - General Organic Chemistry Laboratory (2)

PHYS 113 - General Physics I (4) PHYS 114 - General Physics II (4) Social Sciences/Humanities (9 credit hours) PSYCH 110 - General Psychology (3) or SOCIO 211 - Introduction to Sociology (3) Social Science elective (3) Select from Psychology, Sociology, Political Science, Anthropology, History, Geography, Women's Studies or American Ethnic Studies or FSHS 350 - Family Relationships and Gender Roles (3) Humanities elective (3) Select from History, Music, Art, English (above 210), Philosophy, Theatre, Dance, Modern Language or ARCH 301 - Appreciation of Architecture (3) Unrestricted electives as needed to meet 127 credit hours Total credit hours required for graduation (127)	PHYS 113 - General Physics I (4) PHYS 114 - General Physics II (4) Social Sciences/Humanities (9 credit hours) PSYCH 110 - General Psychology (3) or SOCIO 211 - Introduction to Sociology (3) Social Science elective (3) Select from Psychology, Sociology, Political Science, Anthropology, History, Geography, Women's Studies or American Ethnic Studies or FSHS 350 - Family Relationships and Gender Roles (3) Humanities elective (3) Select from History, Music, Art, English (above 210), Philosophy, Theatre, Dance, Modern Language or ARCH 301 - Appreciation of Architecture(3) Unrestricted electives as needed to meet 127 credit hours Total credit hours required for graduation (127)

RATIONALE: The curriculum is revised to provide enhanced opportunities for students to acquire strong quantitative reasoning and analytical skills, which are increasingly called for by their employers. To provide foundation for these skills earlier in the curriculum, a new required course in decision tools (AGEC115) replaces the previously required course in computer applications (AGEC490). A new capstone course on data analysis and optimization (AGEC501) is added, and the statistics requirement is changed from STAT325 to STAT350, given the course content. Another change is to enhance consistency across the options while strengthening the overall curriculum by requiring that all students in this degree program take a finance course (AGEC513 or FINAN450). The addition of the ASI 107 course is appropriate for the pre-vet option and was recommended for this option by ASI faculty. All other options were approved in fall 2011; this option was accidentally left out of the packet.

IMPACT**:** The Department Head of Statistics (Jim Neill) was contacted; he responded that the department could accommodate by adding an additional section during fall term. We agreed on October 17, 2011 to proceed with this understanding and that the Department of Agricultural Economics will advise their students to enroll in STAT 350 as much as possible in the fall. The Department Head of Finance (Eric Higgins) was contacted and responded that the department is fine with the changes.

EFFECTIVE DATE: Fall 2012

Department of Biological and Agricultural Engineering

Agricultural Technology Management - BS

FROM:

GENERAL REQUIREMENTS ~~39~~ hours **Cr. Hrs.**

ENGL	100	Expository Writing I	3
ENGL	200	Expository Writing II	3
SPCH	105	Public Speaking 1A	2
~~GENAG~~	~~101~~	~~Agricultural Orientation (Freshmen ONLY)~~	~~1~~
MATH	205	General Calculus & Linear Algebra	3
CHM	210	Chemistry I	4
BIOL	198	Principles of Biology	4
PHYS	113	General Physics I	4

Communication electives (6 hrs from List 1+)

Humanities and/or Social Sciences electives (9 hrs from List 2+)

ATM / BAE COURSES (31 hours)

ATM	101	Intro. to Biological and Agricultural Engg. Tech.	1
ATM	160	Engineered Systems and Technology in Agriculture	3
~~ATM~~	~~250~~	~~Chemical Application Systems~~	~~2~~
~~ATM~~	~~251~~	~~Chemical Application Lab~~	~~1~~
BAE	350	Agricultural Machinery Systems	2
BAE	351	Agricultural Machinery Systems Lab	1
ATM	450	Sensors & Controls for Agric. & Biol. Systems	3
~~ATM~~	~~455~~	~~Engine and Power Transfer~~	~~3~~
~~ATM~~	~~511~~	~~Agricultural Building Systems~~	~~3~~
ATM	545	Processing and Storage of Grains	3
ATM	558	Soil Erosion and Sediment Pollution Control	3
~~ATM~~	~~653~~	~~Water Management and Irrigation Systems~~	~~2~~
~~ATM~~	~~654~~	~~Water Management and Irrigation Systems Lab~~	~~1~~
~~ATM~~	~~661~~	~~Water and Waste in the Environment~~	~~3~~

BUSINESS & MANAGEMENT COURSES (18 hours)

ECON 110 Principles of Macroeconomics. 3
✦ACCTG 231 Accounting for Business Operations. 3
Statistics Requirement 3
[Choose one of the following courses:
STAT 325 Introduction to Statistics (3), OR
STAT 340 Biometrics I (3), OR
STAT 350 Business and Economic Statistics I (3)]
Management Requirement.....3
[Choose one of the following courses:
~~IMSE 501 Industrial Management (3), OR~~
MANGT 390 Business Law I, (3), OR
MANGT 420 Management Concepts (3), OR
MANGT 421 .....Introduction to Management Operations (3)
Business and Management Elective 6
(choose a minimum of 6 hrs from List ~~4~~+)

~~TECHNICAL~~ COURSES (11 hours)

ME	212	Engineering Graphics	2
IMSE	250	Production Processes	2
IMSE	251	Production Processes Lab	1

Technology Electives (6 hours from List 3+)

AGRICULTURAL SCIENCE COURSES (10 hours)

AGRON 305 Soils 4
Agricultural Science Electives (min. of 6 hr from List ~~5,~~ 6, or 7+; all 6 hr must be College of Agriculture courses)

RESTRICTED ELECTIVES (Choose a min. of 12 hours all from the

TO:

GENERAL REQUIREMENTS ~~38~~ hours **Cr. Hrs.**

ENGL	100	Expository Writing I	3
ENGL	200	Expository Writing II	3
SPCH	105	Public Speaking 1A	2
MATH	205	General Calculus & Linear Algebra	3
CHM	210	Chemistry I	4
BIOL	198	Principles of Biology	4
PHYS	113	General Physics I	4

Communication electives (6 hrs from List 1+)

Humanities and/or Social Sciences electives (9 hrs from List 2+)

ATM / BAE COURSES (31 hours)

ATM	101	Intro. to Biological and Agricultural Engg. Tech.	1
ATM	160	Engineered Systems and Technology in Agriculture	3
BAE	350	Agricultural Machinery Systems	2
BAE	351	Agricultural Machinery Systems Lab	1
ATM	450	Sensors & Controls for Agric. & Biol. Systems	3
ATM	545	Processing and Storage of Grains	3
ATM	558	Soil Erosion and Sediment Pollution Control	3

Choose a minimum of 15 hrs from List 3+

BUSINESS & MANAGEMENT COURSES (18 hours)

ECON 110 Principles of Macroeconomics 3
ACCTG 231 Accounting for Business Operations 3
Statistics Requirement 3
[Choose one of the following courses:
STAT 325 Introduction to Statistics (3), OR
STAT 340 Biometrics I (3), OR
STAT 350 Business and Economic Statistics I (3)]
Management Requirement..... 3
[Choose one of the following courses:
MANGT 390 Business Law I, (3), OR
MANGT 420 Management Concepts (3), OR
MANGT 421 Introduction to Management Operations (3)]
Business and Management Elective 6
(choose a minimum of 6 hrs from List 5+)

TECHNOLOGY COURSES (11 hours)

ME	212	Engineering Graphics	2
IMSE	250	Production Processes	2
IMSE	251	Production Processes Lab	1

Technology Electives (6 hours from List 3+ and 4+)

AGRICULTURAL SCIENCE COURSES (10 hours)

AGRON 305 Soils 4
Agricultural Science Electives (min. of 6 hr from List 6, 7 or 8+; all 6 hr must be College of Agriculture courses)

RESTRICTED ELECTIVES (Choose a min. of 12 hours all from the same

same List; 6 of the 12 hours must be 400 level or higher; may use Lists ~~3, 4, 5, 6, or 7+~~)

FREE ELECTIVES (3 hours)

Subtotal .....___
TOTAL (minimum of ~~124~~ hours) .....___

LIST 1: COMMUNICATION ELECTIVES

AGCOM	400	Agricultural Business Communications	3
AGCOM	410	Agricultural Student Magazine	2
ENGL	300	Expository Writing III	3
ENGL	516	Written Communications for the Sciences	3
COMM	311	Business and Professional Speaking	3
COMM	321	Public Speaking II	3
COMM	325	Argumentation and Debate	3
COMM	326	Small Group Discussion Methods	3
COMM	726	Seminar in Persuasion	3
MC	200	News and Feature Writing	3
MKTG	542	Professional Selling and Sales Management	3
AGED	706	Principles of Teaching Adults in Extension	3
GENAG	450	Citizenship and Ethics in Agriculture	3

LIST 2: HUMANITIES AND/OR SOCIAL SCIENCE ELECTIVES

American ethnic studies—any course
Architecture, planning, and design—any course in history or appreciation of architecture or environmental design
Anthropology—any course
Art—course in appreciation and theory
Dance—any course
Economics—above ECON 110 Principles of Macroeconomics
English—any except courses in composition
Geography—any except GEOG 220 Environmental
Geography I and GEOG 221 Environmental Geography II
History—any course
Family studies and human services—any course
Modern languages—any course
Music—any course in theory or appreciation of music
Philosophy—any course
Political science—any course
Psychology—any course
Sociology, anthropology, and social work—any course
Theatre—any course
Women's studies—any course

~~PSYCH 560 Industrial Psychology 3~~
~~DEN 325 Introduction to Personal and Professional Dev 1~~

LIST ~~3~~ TECHNOLOGY ELECTIVES

AGRON	655	Site Specific Agriculture	3
~~ATM~~	~~460~~	~~Internship in ATM~~	~~VAR~~
~~ATM~~	~~515~~	~~Problems in Ag Tech Mgmt~~	~~VAR~~
~~ATM~~	~~550~~	~~Precision Agriculture~~	~~3~~
GENAG	582	Natural Resources/Env Sciences Project	3
GEOG	508	Geographic Information Systems I	4
GRSC	540	Engineering Apps in Grain/Food Products.	3
GRSC	541	Engineering Apps in Grain/Food Products Lab	1

List; 6 of the 12 hours must be 400 level or higher; may use Lists <u>4, 5, 6, 7, or 8+</u>)

FREE ELECTIVES (3 hours)

Subtotal ..... ___
TOTAL (minimum of <u>123</u> hours) ___

LIST 1: COMMUNICATION ELECTIVES

AGCOM	400	Agricultural Business Communications	3
AGCOM	410	Agricultural Student Magazine	2
ENGL	300	Expository Writing III	3
ENGL	516	Written Communications for the Sciences	3
COMM	311	Business and Professional Speaking	3
COMM	321	Public Speaking II	3
<u>COMM</u>	<u>322</u>	<u>Interpersonal Communications</u>	<u>3</u>
COMM	325	Argumentation and Debate	3
COMM	326	Small Group Discussion Methods	3
COMM	726	Seminar in Persuasion	3
MC	200	News and Feature Writing	3
MKTG	542	Professional Selling and Sales Management	3
AGED	706	Principles of Teaching Adults in Extension	3

LIST 2: HUMANITIES AND/OR SOCIAL SCIENCE ELECTIVES

American ethnic studies—any course
Architecture, planning, and design—any course in history or appreciation of architecture or environmental design
Anthropology—any course
Art—course in appreciation and theory
Dance—any course
Economics—above ECON 110 Principles of Macroeconomics
English—any except courses in composition
Geography—any except GEOG 220 Environmental
Geography I and GEOG 221 Environmental Geography II
History—any course
Family studies and human services—any course
Modern languages—any course
Music—any course in theory or appreciation of music
Philosophy—any course
Political science—any course
Psychology—any course
Sociology, anthropology, and social work—any course
Theatre—any course
Women's studies—any course

<u>LIST 3 ATM ELECTIVES</u>

<u>ATM</u>	<u>250</u>	<u>Chemical Applications Systems</u>	<u>2</u>
<u>ATM</u>	<u>251</u>	<u>Chemical Application Systems Laboratory</u>	<u>1</u>
<u>ATM</u>	<u>455</u>	<u>Engines and Power Transfer</u>	<u>3</u>
<u>ATM</u>	<u>460</u>	<u>Internship in Agricultural Technology Management</u>	<u>1-3</u>
<u>ATM</u>	<u>511</u>	<u>Agricultural Building Systems</u>	<u>3</u>
<u>ATM</u>	<u>515</u>	<u>Problems in Ag Tech Mgmt</u>	<u>VAR</u>
<u>ATM</u>	<u>550</u>	<u>Precision Ag Technologies</u>	<u>3</u>
<u>ATM</u>	<u>653</u>	<u>Water Management and Irrigation Systems</u>	<u>2</u>
<u>ATM</u>	<u>654</u>	<u>Water Management and Irrigation Systems Lab</u>	<u>1</u>
<u>ATM</u>	<u>661</u>	<u>Watershed Management</u>	<u>3</u>

LIST <u>4</u> TECHNOLOGY ELECTIVES

AGRON	655	Site Specific Agriculture	3
GENAG	582	Natural Resources/Env Sciences Project	3
GEOG	508	Geographic Information Systems I	4
GRSC	540	Engineering Apps in Grain/Food Products.	3
GRSC	541	Engineering Apps in Grain/Food Products Lab	1
GRSC	610	Electricity & Control for Grain Processing Industry	3
GRSC	655	Cereal Food Plant Design & Construction	3

GRSC 610 Electricity & Control for Grain Processing Industry 3
GRSC 655 Cereal Food Plant Design & Construction 3

~~**Recommended College of Engineering Courses:**~~

~~ARE 311 CAD in Engineering and Construction 2~~
~~CNS 231 Statics A 3~~
~~CNS 320 Construction Materials 2~~
~~DEN 210 History of Building Construction 3~~
~~DEN 300 Introduction to Total Quality Management 1~~
~~DEN 325 Introduction to Personal & Professional Dev 1~~
~~IMSE 252 Welding Laboratory 1~~
~~IMSE 530 Engineering Economic Analysis 2~~

Any Other College of Engineering Course

LIST ~~4~~: AGRIBUSINESS AND MANAGEMENT ELECTIVES

ACCTG 241 Accounting for Investment & Financing 3
~~AGEC 120 Agricultural Economics and Agribusiness ..... 3~~
~~AGEC 525 Natural Resource and Environmental Economics. 3~~
~~*~~*Any ~~other~~ Agricultural Economics course~~(s)~~*
ECON 520 Intermediate Macroeconomics 3
ECON 530 Money and Banking 3
ECON 681 International Economics 3
FINAN 450 Principles of Finance 3
IMSE 501 Industrial Management 3
MANGT 390 Business Law I 3
MANGT 420 Management Concepts 3
MANGT 421 Introduction to Operations Management 3
MKTG 400 Introduction to Marketing 3
MKTG 450 Consumer Behavior 3
GRSC 630 Mgmt Apps in the Grain Processing Industries 3

LIST ~~5~~: BIOLOGICAL, NATURAL RESOURCE & ENVIRONMENTAL SCIENCES

AGRON 220 Crop Science 4
AGRON 330 Weed Science 3
AGRON 335 Environmental Quality 3
AGRON 375 Soil Fertility 3
AGRON 385 Soil Fertility Laboratory 2
AGRON 501 Range Management 3
AGRON 550 Forage Management and Utilization 3
~~AGRON 551 Forage Management and Utilization Lab ..... 1~~
AGRON 630 Crop Improvement and BioTechnology 3
AGRON 635 Soil Conservation and Management 3
AGRON 655 Site Specific Agriculture 3
ASI 500 Genetics 3
BIOL 303 Ecology of Environmental Problems 3
BIOL 330 Public Health Biology 3
BIOL 455 General Microbiology 4
BIOL 500 Plant Physiology 4
BIOL 513 Physiological Adaptations of Animals 3
BIOL 529 Fundamentals of Ecology 3
BIOL 612 Freshwater Ecology 4
CHM 315 Environmental Science: Chemistry Perspective 3
ENTOM 300 Economic Entomology 2/3
ENTOM 301 Insects and People 3
GEOG 221 Environmental Geography I 4
GEOG 508 Geographic Information System I 4
GEOL 305 Earth Resources 3
GEOL 506 Environmental Studies 2
HORT 201 Principles of Horticultural Science 4
PLPTH 300 Microbes, Plants, and the Human Perspective 3

Any Other College of Engineering Course

LIST <u>5</u>: AGRIBUSINESS AND MANAGEMENT ELECTIVES

<u>Any Agricultural Economics Course</u>
ACCTG 241 Accounting for Investment & Financing 3
ECON 520 Intermediate Macroeconomics 3
ECON 530 Money and Banking 3
ECON 681 International Economics 3
FINAN 450 Principles of Finance 3
IMSE 501 Industrial Management 3
MANGT 390 Business Law I 3
MANGT 420 Management Concepts 3
MANGT 421 Introduction to Operations Management 3
MKTG 400 Introduction to Marketing 3
MKTG 450 Consumer Behavior 3
GRSC 630 Mgmt Apps in the Grain Processing Industries 3

LIST <u>6</u>: BIOLOGICAL, NATURAL RESOURCE & ENVIRONMENTAL SCIENCES

AGRON 220 Crop Science 4
AGRON 330 Weed Science 3
AGRON 335 Environmental Quality 3
<u>AGRON 360 Crop Growth and Development ..... 3</u>
AGRON 375 Soil Fertility 3
AGRON 385 Soil Fertility Laboratory 2
AGRON 501 Range Management 3
<u>AGRON 515 Soil Genesis and Classification ..... 3</u>
AGRON 550 Forage Management and Utilization 3
AGRON 630 Crop Improvement and BioTechnology 3
AGRON 635 Soil Conservation and Management 3
AGRON 655 Site Specific Agriculture 3
ASI 500 Genetics 3
BIOL 303 Ecology of Environmental Problems 3
BIOL 330 Public Health Biology 3
BIOL 455 General Microbiology 4
BIOL 500 Plant Physiology 4
BIOL 513 Physiological Adaptations of Animals 3
BIOL 529 Fundamentals of Ecology 3
BIOL 612 Freshwater Ecology 4
CHM 315 Environmental Science: Chemistry Perspective 3
ENTOM 300 Economic Entomology 2/3
ENTOM 301 Insects and People 3
GEOG 221 Environmental Geography I 4
GEOG 508 Geographic Information System I 4
GEOL 305 Earth Resources 3
GEOL 506 Environmental Studies 2

	PLPTH	500	Principles of Plant Pathology	3
	~~GENAG~~	~~582~~	~~NRES Project (CAPSTONE)~~	~~3~~
	GENAG	582	Natural Resources/Env Science Project	3
	GENAG	670	Introduction to Ag. Resources & Environ Mgmt	2

Horticulture, Forestry and Recreation Resources courses with consent of advisor.

LIST ~~6~~: ANIMAL SCIENCES ELECTIVES

	ASI	102	Principles of Animal Science	3
	ASI	315	Livestock and Meat Evaluation	3
	ASI	318	Fundamentals of Nutrition	3
	ASI	320	Principles of Feeding	3
			cannot take 300	
	ASI	400	Farm Animal Reproduction	4
	ASI	422	Livestock Sales Management	0/1
	ASI	450	Principles of Livestock Selection	2
	ASI	470	Form and Function in Livestock	2
	ASI	510	Animal Breeding Principles	3
	ASI	512	Bovine Reproductive Technologies	2
	ASI	515	Beef Science	3
	ASI	521	Horse Science	3
	ASI	524	Sheep and Meat Goat Science	3
	ASI	533	Anatomy and Physiology	4
	ASI	535	Swine Science	3
	ASI	620	~~Livestock Production and Management~~	2
	ASI	655	Behavior of Domestic Animals	3
	AGRON	501	Range Management	3
	AGRON	550	Forage Management and Utilization	3
	AGRON	551	Forage Management and Utilization Laboratory	1
	BIOCH	265	Introductory Organic and Biochemistry	5
	ENTOM	305	Animal Health Entomology	2
	ENTOM	306	Animal Health Entomology Laboratory	1

LIST ~~7~~: PROCESSING TECHNOLOGY ELECTIVES

	ASI	350	Meat Science	3
	ASI	361	Meat Animal Processing	2
	ASI	370	Principles of Meat Evaluation	3
	ASI	405	Fundamentals of Milk Processing	3
	ASI	608	Dairy Food Processing & Technology	3
	ASI	610	Processed Meat Operations	2
	FDSCI	302	Introduction to Food Science	3
	FDSCI	305	Fundamentals of Food Processing	3
	FDSCI	430	Food Products Evaluation	3
	FDSCI	607	Food Microbiology	4
	FDSCI	690	Principles of HACCP	3
	FDSCI	694	Food Plant Management	3
	FDSCI	695	Quality Assurance of Food Products	3
	GRSC	150	Principles of Milling	3
	GRSC	500	Milling Science I	4
	GRSC	510	Feed Technology I	4
	GRSC	540	Engineering Apps in Grain/Food Products	3
	GRSC	541	Engineering Apps in Grain/Food Process Lab	1
	GRSC	602	Cereal Science	3
	GRSC	610	Electricity & Its Control Grain Processing Ind	3
	GRSC	620	Extrusion Processing in the Food & Feed Ind.	4
	GRSC	630	Management Applications in Grain Process Ind	3
	GRSC	651	Food & Feed Product Protection	4
	GRSC	655	Cereal Food Plant Design & Construction	3

	HORT	201	Principles of Horticultural Science	4
	PLPTH	300	Microbes, Plants, and the Human Perspective	3
	PLPTH	500	Principles of Plant Pathology	3
	GENAG	582	Natural Resources/Env Science Project	3
	GENAG	670	Introduction to Ag. Resources & Environ Mgmt	2

Horticulture, Forestry and Recreation Resources courses with consent of advisor.

LIST 7: ANIMAL SCIENCES ELECTIVES

	ASI	102	Principles of Animal Science	3
	ASI	315	Livestock and Meat Evaluation	3
	ASI	318	Fundamentals of Nutrition	3
	ASI	320	Principles of Feeding	3
	ASI	400	Farm Animal Reproduction	4
	ASI	422	Livestock Sales Management	0/1
	ASI	450	Principles of Livestock Selection	2
	ASI	470	Form and Function in Livestock	2
	ASI	510	Animal Breeding Principles	3
	ASI	512	Bovine Reproductive Technologies	2
	ASI	515	Beef Science	3
	ASI	521	Horse Science	3
	ASI	524	Sheep and Meat Goat Science	3
	ASI	533	Anatomy and Physiology	4
	ASI	535	Swine Science	3
	ASI	620	Beef Systems Management	2
	ASI	655	Behavior of Domestic Animals	3
	AGRON	501	Range Management	3
	AGRON	550	Forage Management and Utilization	3
	AGRON	551	Forage Management and Utilization Laboratory	1
	BIOCH	265	Introductory Organic and Biochemistry	5
	ENTOM	305	Animal Health Entomology	2
	ENTOM	306	Animal Health Entomology Laboratory	1

LIST 8: PROCESSING TECHNOLOGY ELECTIVES

	ASI	350	Meat Science	3
	ASI	361	Meat Animal Processing	2
	ASI	370	Principles of Meat Evaluation	3
	ASI	405	Fundamentals of Milk Processing	3
	ASI	608	Dairy Food Processing & Technology	3
	ASI	610	Processed Meat Operations	2
	FDSCI	302	Introduction to Food Science	3
	FDSCI	305	Fundamentals of Food Processing	3
	FDSCI	430	Food Products Evaluation	3
	FDSCI	607	Food Microbiology	4
	FDSCI	690	Principles of HACCP	3
	FDSCI	694	Food Plant Management	3
	FDSCI	695	Quality Assurance of Food Products	3
	GRSC	150	Principles of Milling	3
	GRSC	500	Milling Science I	4
	GRSC	510	Feed Technology I	4
	GRSC	540	Engineering Apps in Grain/Food Products	3
	GRSC	541	Engineering Apps in Grain/Food Process Lab	1
	GRSC	602	Cereal Science	3
	GRSC	610	Electricity & Its Control Grain Processing Ind	3
	GRSC	620	Extrusion Processing in the Food & Feed Ind.	4
	GRSC	630	Management Applications in Grain Process Ind	3
	GRSC	651	Food & Feed Product Protection	4
	GRSC	655	Cereal Food Plant Design & Construction	3

RATIONALE: The ATM curriculum changes provide students more elective opportunities in ATM courses. BAE faculty believe it is important to provide students the opportunity to select 15 hours from the BAE/ATM elective course list that best fit their career interest rather than requiring all BAE/ATM courses taught.

IMPACT: No impact to other departments.

EFFECTIVE DATE: Spring 2013

Grain Science and Industry

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

FROM:		TO:	
ACCTG 231 Accounting Bus Opr	3	ACCTG 231 Accounting Bus Opr	3
BIOCH 521 Gen. Biochem	3	BIOCH 521 Gen. Biochem	3
BIOCH 522 Gen. Biochem Lab	2	BIOCH 522 Gen. Biochem Lab	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 Chem Analysis	4	CHM 371 Chem Analysis	4
CHM 500 Gen Phys. Chem.	3	CHM 500 Gen Phys. Chem.	3
CHM 531 Organic Chem I	5	CHM 531 Organic Chem I	5
CHM 532 Organic Chem I Lab	5	CHM 532 Organic Chem I Lab	5
CHM 550 Organic Chem II	3	CHM 550 Organic Chem II	3
~~COMM 106 Public Speaking~~	~~3~~	COMM 105 Public Speaking	2
ECON 110 Principles of Macro Econ	3	ECON 110 Principles of Macro Econ	3
ENGL 100 Expo Writing I	3	ENGL 100 Expo Writing I	3
ENGL 200 Expo Writing II	3	ENGL 200 Expo Writing II	3
ENGL 516 or AGCOM 400	3	ENGL 516 or AGCOM 400	3
FDSCI 501 Food Chemistry	3	FDSCI 501 Food Chemistry	3
FDSCI 607 Food Micro	4	FDSCI 607 Food Micro	4
FDSCI 727 Chem Methods Foods	2	FDSCI 727 Chem Methods Foods	2
GENAG 101 Ag Orientation	1	GENAG 101 Ag Orientation	1
GRSC 101 Intro to Grain Sci & Tech	3	GRSC 101 Intro to Grain Sci & Tech	3
GRSC 150 Principles of Milling	3	GRSC 150 Principles of Milling	3
GRSC 310 Material Handling	3	GRSC 310 Material Handling	3
~~GRSC 540 Eng. Appl Food Proc~~	~~3~~		
~~GRSC 541 Eng. Appl Food Proc Lab~~	~~1~~		
GRSC 591 Internship	2	GRSC 591 Internship	2
GRSC 601 AIB Pract	2	GRSC 601 AIB Pract	2
GRSC 602 Cereal Sci.	3	GRSC 602 Cereal Sci.	3
GRSC 625 Flour and Dough Testing	3	GRSC 625 Flour and Dough Testing	3
GRSC 635 Baking Sci I	2	GRSC 635 Baking Sci I	2
GRSC 636 Baking Sci I Lab	2	GRSC 636 Baking Sci I Lab	2
GRSC 637 Baking Sci II	3	GRSC 637 Baking Sci II	3
GRSC 638 Baking Sci II Lab	1	GRSC 638 Baking Sci II Lab	1
GRSC 651 Food/Feed Prod Prot	4	GRSC 651 Food/Feed Prod Prot	4
GRSC 670 Bakery Layout	1	GRSC 670 Bakery Layout	1
HN 132 Basic Nutrition	3	HN 132 Basic Nutrition	3

MATH 220 Calculus I		4	MATH 220 Calculus I		4
MATH 221 Calculus II		4	MATH 221 Calculus II		4
PHYS 213 Eng Physics I	5		PHYS 213 Eng Physics I	5	
PHYS 214 Eng Physics II	5		PHYS 214 Eng Physics II	5	
STAT 325 Elementary Statistics		3	STAT 325 Elementary Statistics		3
Free Elective		~~2~~	Free Elective		3
Specialization Elective		~~4~~	Social Sci Elective		3
			Specialization Elective		5
TOTAL CREDITS		**~~129~~**	**TOTAL CREDITS**		**130**
Specialization Electives:			***Specialization Electives:***		
EDLST 212 Intro Lead Concepts	3		EDLST 212 Intro Lead Concepts	3	
FDSCI 690 HACCP		2	FDSCI 690 HACCP		2
GRSC 500 Milling Science I		4	GRSC 500 Milling Science I		4
GRSC 610 Elect. Grain Proc.		3	GRSC 540 Eng. Appl Food Proc	3	
GRSC 620 Extrusion Proc.		4	GRSC 541 Eng. Appl Food Proc Lab		1
GRSC 691 Study Abroad	V		GRSC 610 Elect. Grain Proc.		3
GRSC 712 Vib. Spect. Anal.		1	GRSC 620 Extrusion Proc.		4
GRSC 713 Chromatography		1	GRSC 691 Study Abroad	V	
GRSC 745 Fund. Bioprocessing		3	GRSC 712 Vib. Spect. Anal.		1
			GRSC 713 Chromatography		1
			GRSC 745 Fund. Bioprocessing		3

RATIONALE: This revision is an effort for further harmonization of the Cereal Chemistry options of the BSM & MSM Programs. The proposed changes

- Add 3 hours of social science electives which facilitates the completion of K-State 8 requirements without having to exceed the credit hours required of the curriculum.
- Moves the specialization and free elective totals to 3 & 5 hour respectively. This opens many more opportunities for fulfilling these requirements without taking extra hours above the degree requirements.
- Moves GRSC 540 & 541 to the category most appropriate (specialization electives) to Cereal Chemistry Option students.

IMPACT: Proposed changes will not impact other departments except for the change from COMM 106 to COMM 105. About 20% of students in BSM program pursue Cereal Chemistry Option. We anticipate an increase (or decrease) of 2-4 students each year in these courses. Charles Griffin, Department of Communication Studies, Theater and Dance, has been contacted as has responded in support of the changes by email.

EFFECTIVE DATE: Fall 2012

B.S. in Milling Science and Management – Cereal Chemistry Option

FROM:		TO:	
ACCTG 231 Accounting Bus Opr	3	ACCTG 231 Accounting Bus Opr	3
AGEC 120 Ag Econ & Ag Bus	3	AGEC 120 Ag Econ & Ag Bus	3
~~AGRON 340 Grain Grading~~	~~2~~	BIOCH 521 Gen. Biochem	3
BIOCH 521 Gen. Biochem	3	BIOCH 522 Gen. Biochem Lab	2
BIOCH 522 Gen. Biochem Lab	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 Chem Analysis	4
~~CHM 350 General Organic Chem.~~	~~3~~	CHM 500 Gen Phys. Chem.	3
~~CHM 351 General Organic Chem. Lab~~	~~2~~	CHM 531 Organic Chem I	3
CHM 500 Gen Phys. Chem.	3	CHM 532 Organic Chem I Lab	2
CHM 531 Organic Chem I	3	CHM 550 Organic Chem II	3
CHM 532 Organic Chem I Lab	2	COMM 105 Public Speaking	2
CHM 550 Organic Chem II	3	ECON 110 Principles of Macro Econ	3
COMM 105 Public Speaking	2	ENGL 100 Expo Writing I	3
ECON 110 Principles of Macro Econ	3	ENGL 200 Expo Writing II	3
ENGL 100 Expo Writing I	3	GENAG 101 Ag Orientation	1
ENGL 200 Expo Writing II	3	GRSC 101 Intro to Grain Sci & Tech	3
GENAG 101 Ag Orientation	1	GRSC 150 Principles of Milling	3
GRSC 101 Intro to Grain Sci & Tech	3	GRSC 210 Flow sheets	3
GRSC 150 Principles of Milling	3	GRSC 310 Material Handling	3
GRSC 210 Flow sheets	3	GRSC 500 Milling Science I	4
GRSC 310 Material Handling	3	GRSC 602 Cereal Sci.	3
GRSC 500 Milling Science I	4	GRSC 625 Flour and Dough Testing	3
GRSC 602 Cereal Sci.	3	GRSC 630 Mgmt Appl Grain Proc Ind	3
GRSC 625 Flour and Dough Testing	3	GRSC 635 Baking Science I	2
GRSC 630 Mgmt Appl Grain Proc Ind	3	GRSC 636 Baking Science I Lab	2
GRSC 635 Baking Science I	2	GRSC 651 Food/Feed Prod Prot	4
GRSC 636 Baking Science I Lab	2	GRSC 680 Milling Science II	3
GRSC 651 Food/Feed Prod Prot	4	GRSC 681 Milling Science II Lab	1
GRSC 680 Milling Science II	2	GRSC 684 Mill Proc. Tech. Mgmt.	3
GRSC 681 Milling Science II Lab	2	MATH 220 Calculus I	4
GRSC 684 Mill Proc. Tech. Mgmt.	3	MATH 221 Calculus II	4
~~GRSC 712 Vib. Spect.~~	~~1~~	PHYS 213 Eng Physics I	5
~~GRSC 713 Chromatography~~	~~1~~	PHYS 214 Eng Physics II	5
MATH 220 Calculus I	4		
~~PHYS 113 General Physics I~~	~~4~~		
~~PHYS 114 General Physics II~~	~~4~~		
STAT 325 Elementary Statistics	3	STAT 325 Elementary Statistics	3
Free Elective	3	Free Elective	3
Social Sci Elective	~~9~~	Social Sci Elective	6
Specialization Elective	~~5~~	Specialization Elective	6
TOTAL CREDITS	**~~129~~**	**TOTAL CREDITS**	**130**
Specialization Electives:		***Specialization Electives:***	
ACCTG 241 Acctg. Invest and Finance	3	ACCTG 241 Acctg. Invest and Finance	3

ACCTG 331 Acctg. Proc & Cont 4	ACCTG 331 Acctg. Proc & Cont 4
AGEC 318 Food & Agribus Mangt 3	AGEC 318 Food & Agribus Mangt 3
AGEC 420 Comm Futures Mrkt 3	AGEC 420 Comm Futures Mrkt 3
AGEC 513 Ag Finance 3	AGEC 500 Production Economics 3
AGEC 515 Food & Agri. Bus. Mktg 3	AGEC 513 Ag Finance 3
AGEC 520 Market Fund & Futures 3	AGEC 515 Food & Agri. Bus. Mktg 3
AGEC 632 Agri. Bus. Logic 3	AGEC 520 Market Fund & Futures 3
COMM 311 Bus & Prof. Speaking 3	AGEC 632 Agri. Bus. Logic 3
ENGL 516 Written Comm. for Sci 3	AGRON 340 Grain Grading 2
GRSC 620 Ext. Pro. Food & Feed Indr 4	COMM 311 Bus & Prof. Speaking 3
GRSC 691 Study Abroad V	ENGL 516 Written Comm. for Sci 3
GRSC 745 Fund. Bio-processing 3	GRSC 540 Eng. Appl Food Proc 3
MANGT 390 Bus. Law I 3	GRSC 541 Eng. Appl Food Proc Lab 1
MANGT 420 Mgmt. Conc 3	GRSC 610 Elect. Grain Proc. 3
MANGT 530 Ind. Labor Relations 3	GRSC 620 Ext. Pro. Food & Feed Indr 4
MANGT 531 Pers. & HR Mgm 3	GRSC 640 Advanced Flowsheets 3
	GRSC 691 Study Abroad V
	GRSC 712 Vib. Spect. Anal. 1
	GRSC 713 Chromatography 1
	GRSC 745 Fund. Bio-processing 3
	MANGT 390 Bus. Law I 3
	MANGT 420 Mgmt. Conc 3
	MANGT 530 Ind. Labor Relations 3
	MANGT 531 Pers. & HR Mgm 3

RATIONALE: This revision is an effort for further harmonization of the Cereal Chemistry options of the BSM & MSM Programs. The proposed changes

- Move AGRON 340, GRSC 712/713 from “core requirement” to “specialization elective”
- Drop CHM 350 and 351 due to redundancy in course content. CHM 531 and 532 covers same concepts in a deeper extent.
- Add MATH 221 to bring the Math requirement to the same level as BSM-Cereal Chemistry Option.
- Upgrade PHYS 113 and 114 to PHYS 213 and 214, which better prepare the students for graduate school (most of the Chemistry Options students apply for graduate programs). This changes also bring the Physics requirement to the same level as BSM Cereal Chemistry option.
- Add CHM 371, which is a requirement in BSM-Cereal Chemistry Option. This class provides a strong foundation for quantitative analysis.
- Add AGEC 500, GRSC 540 and 541, GSRC 610 and GRSC 640 to “specialization electives”. These are required courses for MSM-Operations Option. These additions will provide an opportunity to Chemistry Option students to take them if they are interested in.

IMPACT: About 10% of students in MSM program pursue The Cereal Chemistry Option. Some of the proposed changes might impact CHM, MATH and PHYS course capacities. In most cases, we would anticipate an increase (or decrease) of 1-3 students each year in these courses. Dr. Dogan is currently in the process of contacting these departments. Hikaru Peterson of AGEC has been contacted and responded in support of the changes by email. Erick Maatta in the Chemistry department has been contacted and responded in support of the changes by email. John Unruh in Food Science has been contacted and responded in support of the

changes by email. Mick O'Shea in Physics has been contacted and responded in support of the changes by email. Andy Bennett, Mathematics, has been contacted.

EFFECTIVE DATE: Fall 2012

College of Business Administration (Approved on March 28, 2012)

COURSE CHANGES

Dean's office

Add:

GENBA 350 New Venture Creation

Credits: (3)

This course examines the entrepreneurial process, especially as it relates to creating a business plan and launching a venture. We will address the process of creativity and innovation and its impact on the success of business start-up. Specific topics covered include new venture planning, marketing, financing, and management. This course will serve as a strong foundation for those aspiring to own and operate their own businesses as well as a real-world heads-up course for students who acknowledge that their future with larger businesses could very well include dealing with entrepreneurs/small businesses.

Requisites

Pre-Requisites: GENBA 340, ENGL 455, Student admitted in the minor in Entrepreneurship

When Offered

Spring

K-State 8

Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

Rationale
This proposed course will be a required capstone course for the Minor in entrepreneurship. (see minor proposal for additional information on rationale for entrepreneurship courses)

Impact on Other Units

The Department of English will be impacted by the new Entrepreneurship Minor. They have been notified.

Effective Date

Fall 2012

CURRICULUM CHANGE

Changes to the Certificate in International Business:

Rationale:

The CBA has seen a very large increase of international students at the undergraduate level over the last few years, from approximately 80 in fall 2007 to more than 300 in fall 2011. Many of these students have expressed an interest in the CIB. Most of the international students in the college are pursuing English as their second language and therefore it is unreasonable to expect them to pursue a third language.

Mr. Jim Lewis, K-State international student recruitment coordinator, has shared with student services representatives that prospective international students have an interest in pursuing academic options with an international emphasize, such as a major, minor or certificate program. Therefore, changing the CIB requirements to make it more feasible for international students to complete it may serve as a recruitment tool for the CBA and K-State.

Competing business schools such as the School of Business at KU has amended their international certificate to make it more feasible for international students to complete it.

Impact: The changes to the Certificate in International Business will have a slight impact on the demand for courses in the following departments: Communication, English, English Language Program, Geography, History, Music, Political Science, Sociology, Anthropology, and Theatre. All departments have been notified.

FROM:	**TO:**
• ~~Advanced foreign language study, Level 4 or the equivalent of Level 4 in a foreign language sequence offered by the Department of Modern Languages.~~	• Foreign language requirement: o *Domestic student policy*: ▪ Advanced foreign language study, Level 4 or the equivalent of Level 4 in a foreign language sequence offered by the Department of Modern Languages ***or approved by the CBA.*** ▪ *An additional 6 credit hours of upper level courses (beyond Level 4) in the foreign language sequence.* o *International student policy:* ▪ *Students for whom English is not the primary language, as determined by the K-State Admission office and the English Language Program (ELP) at their original date of entry to K-State, that have completed courses through ELP or tested directly into regular university courses can use the ELP English courses or proficiency level to meet the basic foreign language requirement (Level 1-4) of the CIB.*

	▪ *The CIB requires proficiency in two languages. Therefore, students for whom English is not the primary language will complete a native language proficiency assessment through the Modern Language Department to verify adequate proficiency in their native language. Students must pass the assessment to be able to use the indicated language as their native language for the CIB.* ▪ *An additional 6 credit hours of 300 level or higher course work focusing on communication or English writing and literature, American culture, history, society, geography or politics are required. Courses must be completed from two different departments. 3 hours must be from the Department of Communication Studies, Theatre and Dance or the English department and 3 hours from one of the other departments on the list. A list of approved electives is available in the Office of Student Services in 107 Calvin.*
~~• An additional 6 credit hours in language courses numbered 500 or above in a single language.~~ • World Regional Geography (GEOG 100) • Required Courses: MANGT 690 International Management (3) MKTG 544 International Marketing (3) Select 3 hours from the following list: FINAN 643 International Financial Management (3) ECON 681 International Economics (3) ECON 682 Development Economics (3) ~~Select 3 hours from the approved international course list~~ ~~• Participate in a study abroad/student exchange program OR an international internship (summer, semester or year) that carries a minimum of three (3) KSU credit hours.~~	• World Regional Geography (GEOG 100) • Required Courses: MANGT 690 International Management (3) MKTG 544 International Marketing (3) Select 3 hours from the following list: FINAN 643 International Financial Management (3) ECON 681 International Economics (3) ECON 682 Development Economics (3) *Select 3 hours from the CBA approved international overlay course list. This course cannot double count with any of the other course requirements for the CIB.* • International experience requirement: o Domestic student policy: ▪ Participate in a study abroad/student exchange program OR an international internship (summer, semester or year) that carries a minimum of three (3)

• Student must earn a minimum of a 2.50 grade point average on courses taken to fulfill the requirement of the CIB. • Student must earn at least 50% of credits that apply to the certificate from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country. • Certificate must be earned concurrently with degree. It cannot be completed after baccalaureate degree has been granted. • *The number of students admitted in CIB will be based on resource availability*	<u>KSU credit hours.</u> o *<u>International student policy:</u>* ▪ *<u>Studying at K-State will meet the international experience requirement.</u>* • Student must earn a minimum of a 2.50 grade point average on courses taken to fulfill the requirement of the CIB. • Student must earn at least 50% of credits that apply to the certificate from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country. • Certificate must be earned concurrently with degree. It cannot be completed after baccalaureate degree has been granted. • The number of students admitted into the CIB will be based on resource availability.

Effective Date: Fall 2012

COLLEGE OF ARTS AND SCIENCES (approved 2-12-12 and 4-5-12)

Geography

ADD: GEOG 506 – Geography of South Asia. (3) I. This course will provide a survey of the physical and human geography of South Asia. More specifically, it will cover the major environmental, economic, demographic, and cultural geography patterns, processes, and issues of the region. Problems related to religious, ethnic, and linguistic diversity, along with environmental problems associated with global climate change and others will be examined in the context of modernization and economic development. This will be a lecture type course and each relevant topic will be covered in some detail. Pr: Three hours of Social Science or junior standing.

K-State 8: Social Science and Global Issues and Perspectives.

RATIONALE: The future of GEOG 505: South Asian Civilization, which is a team taught course and cross listed under several K-State departments, is uncertain with retirement of Dr. Aruna Michie- professor in Political Science. Although several K-State faculties have been involved with this course, departments of Political Science, and Sociology, Social Work and Anthropology traditionally took leading role in offering this course. Currently, these two departments are unwilling to play that role. Given this uncertainty with the South Asian Civ course, the College of Arts and Sciences is considering a proposal to introduce a minor in South Asia Studies. The proposed course us the only geography course listed as a required course for the minors in South Asia.

IMPACT: This will not impact another unit, rather it will help to introduce minor in South Asia.

EFFECTIVE DATE: Fall 2013

Journalism and Mass Communication

FROM: MC 331 – Digital Photography for Mass Media. (3) I, II, S. Basics of composition, exposure, cropping and editorial judgment using converted analog and digital images and image-building software. Introduction to uses of digital photography in mass media such as newspapers, magazines, brochures and web sites. Pr.: ~~2.5 overall GPA on completion of 6 MC credits.~~

TO: MC 331 – Digital Photography for Mass Media. (3) I, II, S. Basics of composition, exposure, cropping and editorial judgment using converted analog and digital images and image-building software. Introduction to uses of digital photography in mass media such as newspapers, magazines, brochures and web sites. Pr.: MC 110 with a grade of C or better, or permission of the instructor.

RATIONALE: Review of prerequisites for this course indicated a need to change them in order to do away with our current permission system and let ISIS check prerequisites.

IMPACT: Required course in EDENJ and Journalism-Second Teaching Field in Secondary Education.

EFFECTIVE DATE: Fall 2012

FROM: MC 411 – Yearbook Editing and Management. (~~2~~) I. Planning, editing, layout, writing and financing a publication. Pr.: ~~Instructor Permission.~~

TO: MC 411 – Yearbook Editing and Management. (3) I. Planning, editing, layout, writing and financing a publication. Pr.: None.

RATIONALE: To increase the credit hours from 2 to 3, contact hours and out-of - class hours are already the same in MC411 as in similar existing JMC courses in which students receive 3 hours of credit.

IMPACT: Listed as an elective in EDJOR curriculum.

EFFECTIVE DATE: Fall 2012

FROM: MC 456 – Advertising Techniques. (3) I, II, S. The planning, creation, and production of advertising messages for various mass communications media. ~~Pr.: MC 221 with a grade of C or better.~~

TO: MC 456 – Advertising Techniques. (3) I, II, S. The planning, creation, and production of advertising messages for various mass communications media. Pr.: MC majors and minors and AG communication majors only. MC 221 with a grade of C or better.

RATIONALE: Review of prerequisites for this course indicated a need to change them in order to do away with our current permission system and let ISIS check prerequisites.

IMPACT: Allows only MC majors and minors, and AGCOMM majors to enroll.

EFFECTIVE DATE: Fall 2012

FROM: MC 466 – Law of Mass Communication. (3) I, II, S. A study of the legal issues relating to mass communication. Emphasis on defamation, privacy, copyright, administrative controls and other areas related to mass media. Pr.: ~~Junior standing.~~

TO: MC 466 – Law of Mass Communication. (3) I, II, S. A study of the legal issues relating to mass communication. Emphasis on defamation, privacy, copyright, administrative controls, and other areas related to mass media. Pr.: Junior standing and MC110 with a grade of C or better, or permission of instructor.

RATIONALE: Prerequisite change deemed necessary to assure that enrolling students would have foundation in mass communication principles, history and practices.

IMPACT: This course is required for College of Education students in Journalism – Second Teaching Field in Secondary Education, Journalism Teacher Licensure Program (EDJOR) and English and Journalism (EDENJ) Teacher Licensure Program.

EFFECTIVE DATE: Fall 2012

FROM: MC 480 – Public Relations Techniques. (3) I, II. Focuses on the use of communication techniques in achieving organizational goals. Includes planning, application and ethics of messages for print, electronic and on-line media, and for special events. Pr.: ~~MC 280 with grade of C or better.~~

TO: MC 480 – Public Relations Techniques. (3) I, II. Focuses on the use of communication techniques in achieving organizational goals. Includes planning, application and ethics of messages for print, electronic and on-line media, and for special events. Pr.: MC majors and minors and AG communication majors only. MC 280 with a grade of C or better.

RATIONALE: Review of prerequisites for this course indicated a need to change them in order to do away with our current permission system and let ISIS check prerequisites.

IMPACT: Allows only MC majors and minors, and AGCOMM majors to enroll.

EFFECTIVE DATE: Fall 2012

Women's Studies

ADD: WOMST 305 – Advanced Fundamentals of Women's Studies. (3) I, II. An advanced examination of the origins of the Women's Studies field provides core concepts and research methodologies.

K-State 8: Human Diversity within the US; Ethical Reasoning and Responsibility.

RATIONALE: The new WOMST 305: Fundamentals is the REQUIRED foundational course for the major. It introduces Women's Studies majors to the history of the discipline, the core concepts of the field, and methodological practices of women's studies scholarship. The foundational course for majors, it provides an introduction that is both in-depth and consistent for each cohort of majors. It will serve as the preparation for advanced coursework in Women's Studies. (Introduction to Women's Studies, WOMST 105, is no longer required for majors. 105 is still offered within our curriculum, and can still count as an elective within the overall major, but is no longer required for the major, and is more explicitly a general education course (teaching over 850 students a year).) Creation of WOMST 305, and the changes in requirements are part of the overall curriculum change that was approved by the full Women's Studies faculty in November 2011.

IMPACT: None.

EFFECTIVE DATE: Fall 2012

ADD: WOMST 405 – Resistance and Movements for Social Change. (3) I. Examines Women's Resistance and movements against gender violence and discrimination in the context of colonialism, globalization, war, militarism, and occupation. Pr.: WOMST 105 or 305.

K-State 8: Global Issues and Perspectives, Historical Perspectives

RATIONALE: This course fills a gap in our curriculum. Taken as a part of our newly revised curriculum, this course is being added to provide Women's Studies majors with a global historical overview of women's resistance to gender violence and women's movements for social change.

IMPACT: None

EFFECTIVE DATE: Fall 2012

ADD: WOMST 510 – Research Methods and Methodology in Women's Studies. (3) II. An advanced course in practices of research in Women's Studies, with attention to what distinguishes interdisciplinary, feminist research from traditional, disciplinary practices. Methods explored may include survey, interview, oral history, ethnography, hermeneutics, content analysis, case study, experimental, and action research. Pr.: WOMST 305 and WOMST 410.

RATIONALE: This course fills a gap in our curriculum. Taken as part of our newly-revised curriculum, this course will prepare students with the understanding of research methods and methodologies in the field of Women's Studies that they will need in order to successfully complete the Capstone Seminar (another part of our new curriculum).

IMPACT: None

EFFECTIVE DATE: Fall 2012

CURRICULUM CHANGES

Undergraduate (Non-expedited)

ART

BA in Art

FROM:	TO:
~~The BA degree in art consists of four parts: the general education courses outlined under the humanities curriculum; a core of beginning art courses to provide prerequisites and a broad range of art experience for the art major; and 15 credit hours of art electives and 15 credit hours concentration of related subjects that should provide a minimal basis for establishing professional competence.~~	The BA degree in Art (studio track) consists of the general education courses outlined under the humanities curriculum; the current 21 studio credits in the core; plus ART 105 for one credit and a minimum of 9 credit hours in one Art area as well as 6 credit hours in another Art area which are 300 level or above. 14 credit hours will be free electives which could be courses for a minor in another department.
~~Concentration possibilities are in one of the following: painting, printmaking, ceramics, sculpture, drawing, art history, metalsmithing and jewelry, graphic design, illustration, digital arts, and photography.~~	Area of study include: painting, printmaking, ceramics, sculpture, drawing, art history, metalsmithing and jewelry, graphic design, digital arts or photography.
~~The bachelor of arts degree requires a minimum of 48 semester credit hours in art.~~	The bachelor of arts degree requires a minimum of 49 semester credit hours in art.

RATIONALE: We would like the BA in ART to be distinct from the BFA and allow it to include a broader art training. Currently the art component of the BA is the same as a BFA except it does not include the last two courses of the BFA degree. This will allow a more unique set of courses chosen by the BA student and allow them to take advantage of the wider array of courses that the university offers.

IMPACT: None

EFFECTIVE DATE: Fall 2012

Communication Studies, Theatre and Dance

Communication Studies Minor

FROM: TO:

Communication Studies Minor The Department of Communication Studies, Theatre and Dance offers a minor in communication studies. • COMM 320 – Theories of Human Communication (Credits: 3) • COMM 330 – Rhetoric and Western Thought (Credits: 3) Four guided electives (at least one COMM 400-level or above) chosen from : (12 Credits) COMM 311, 321, 322, 323, 324, 326, 331, 420, 425, 426, 430, 432, 435, 450, 460, 470, 475, 480, 525, 526, 535, 545, and 630.	Communication Studies Minor The Department of Communication Studies, Theatre and Dance offers a minor in communication studies. • COMM 320 – Theories of Human Communication (Credits: 3) • COMM 330 – Rhetoric and Western Thought (Credits: 3) Four guided electives (at least one COMM 400-level or above) chosen from : (12 Credits) COMM 311, 321, 322, 323, 324, 326, 331, 420, 425, 426, 430, 432, 435, 450, 460, 470, 475, 480, 525, 526, 535, 545, and 630.

RATIONALE: A single change is proposed: to make the minor in Communication Studies available to students whose undergraduate degrees are not from K-State. We have a case now where a Ft. Riley spouse who will be here for two semesters, and who already has a Bachelor's degree from another institution, desires to do the coursework for a minor in Communication Studies to add to her academic credentials. As things now stand, she could take the required coursework, but never have credit for completing the minor recorded anywhere on her transcript. That is a scenario likely to recur with the transient population at Ft. Riley. Military personnel and their spouses are not here long enough to earn MA. They may want to complete a minor and are here long enough to do so. We want to make that possible. All coursework is on the KSU campus and already in place. We have an approved minor in Communication Studies already in the catalogue.

PROPOSED DELIVERY MECHANISM: The post baccalaureate K-State students and the non-K-State students taking the minor will take courses face-to-face as traditional classes.

NEED FOR ADDITIONAL RESOURCES: None

PROJECTED ENROLLMENT / EVIDENCE OF NEED: 5-10 annually

ADMISSION REQUIREMENTS: Must have a BA/BS or equivalent from an accredited institution of higher learning in U.S. or abroad.

COMPLETION REQUIREMENTS: The same as our minor now. 18 hours, including six hours of core courses (COMM 320, COMM 330).

PROGRAM ASSESSMENT: The same as in place for our minor right now. Review by the faculty annually of the curriculum and needs of the program. Exit interviews. We have not been asked to develop SLO's for our existing minor, so developing SLOs for the post-baccalaureate minor option would be inappropriate at this time.

IMPACT: This will allow both current students as well as post-baccalaureate students the opportunity to earn a minor in Communication Studies. There is no impact outside the department of Communication Studies, Theatre and Dance.

EFFECTIVE DATE: Fall 2012

Natural Resources and Environmental Sciences (NRES) Secondary Major

FROM:	TO:
II. Block elective requirements From the following lists, students must successfully complete a minimum of 5 courses (15 credit hours minimum) from at least four departments. One course must be taken from each of the designated areas (natural, applied, and social sciences/humanities), two courses must be numbered 500 or greater, and three courses must have a prerequisite. These lists are continuously being revised, See the director for the most recent version. **Social sciences/humanities courses** • AGCOM 712 - Environmental Communication **Credits:** (3) • AGEC 525 - Natural Resource and Environmental Economics **Credits:** (3) • AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** (3) • ANTH 260 - Introduction to Archeology **Credits:** (3)	**II. Block elective requirements** From the following lists, students must successfully complete a minimum of 5 courses (15 credit hours minimum) from at least four departments. One course must be taken from each of the designated areas (natural, applied, and social sciences/humanities), two courses must be numbered 500 or greater, and three courses must have a prerequisite. These lists are continuously being revised, See the director for the most recent version. **Social sciences/humanities courses** • AGCOM 712 - Environmental Communication **Credits:** (3) • AGEC 525 - Natural Resource and Environmental Economics **Credits:** (3) • AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** (3) • ANTH 260 - Introduction to Archeology **Credits:** (3)

• ECON 527 - Environmental Economics **Credits:** (3) • ENGL 680 - Topics in American Literature **Credits:** (3) • GEOG 340 - Geography of Natural Resources **Credits:** (3) • GEOG 360 - Sustainability Science **Credits:** (3) • GEOG 460 - Human Dimensions of Global Change **Credits:** (3) • GEOG 718 - Geography of Public Lands **Credits:** (3) • GEOG 720 - Geography of Land Use **Credits:** (3) • GEOG 725 - Geography of Water Resources **Credits:** (3) • GEOG 730 - World Agricultural Systems **Credits:** (3) • GEOG 760 - Human Impact on the Environment **Credits:** (3) • GEOG 765 - Geography of Natural Hazards **Credits:** (3) • GEOG 770 - Perception of the Environment **Credits:** (3) • HIST 511 - Environmental History **Credits:** (3) • HIST 557 - History of American Agriculture **Credits:** (3) • LAR 322 - Environmental Issues and Ethics **Credits:** (3) • LAR 646 - Community Planning and Design **Credits:** (5) • MC 712 - Environmental Communications **Credits:** (3) • PHILO 595 - Environmental Ethics **Credits:** (3) • PLAN 315 - Introduction to City Planning **Credits:** (3) • SOCIO 536 - Environmental Sociology **Credits:** (3) • WOMST 480 - Seminar in Gender, Environment & Justice **Credits:** (3)	• ECON 527 - Environmental Economics **Credits:** (3) • ENGL 680 - Topics in American Literature **Credits:** (3) • GENAG 670 – Introduction to Agricultural Resources and Environmental Management Credits: (2) • GEOG 340 - Geography of Natural Resources **Credits:** (3) • GEOG 360 - Sustainability Science **Credits:** (3) • GEOG 460 - Human Dimensions of Global Change **Credits:** (3) • GEOG 718 - Geography of Public Lands **Credits:** (3) • GEOG 720 - Geography of Land Use **Credits:** (3) • GEOG 725 - Geography of Water Resources **Credits:** (3) • GEOG 730 - World Agricultural Systems **Credits:** (3) • GEOG 760 - Human Impact on the Environment **Credits:** (3) • GEOG 765 - Geography of Natural Hazards **Credits:** (3) • GEOG 770 - Perception of the Environment **Credits:** (3) • HIST 511 - Environmental History **Credits:** (3) • HIST 557 - History of American Agriculture **Credits:** (3) • LAR 322 - Environmental Issues and Ethics **Credits:** (3) • LAR 646 - Community Planning and Design **Credits:** (5) • MC 712 - Environmental Communications **Credits:** (3) • PHILO 595 - Environmental Ethics **Credits:** (3) • PLAN 315 - Introduction to City Planning **Credits:** (3) • SOCIO 536 - Environmental Sociology

	Credits: (3) • WOMST 480 - Seminar in Gender, Environment & Justice **Credits:** (3)

RATIONALE: The nine members of the Board of Directors for the NRES program evaluated GENAG 670 and found that at least 50% of the course content dealt with natural resources or the environmental sciences. They therefore approved addition of the class to the NRES curriculum by unanimous vote on 24 January 2012.

IMPACT: None

EFFECTIVE DATE: Fall 2012

COLLEGE OF ENGINEERING (approved 4-5-12)

COURSE CHANGES
Computing and Information Sciences

Change

From:

CIS 111 ~~Fundamentals of~~ Computer Programming

Credits: 3

Description: Introduction to ~~object-oriented~~ programming. Principles and applications of programming fundamentals: state, control, ~~data structures,~~ methods, ~~objects,~~ and ~~packages~~. Programming projects.

Note: Two hours lecture, two hours lab per week.

To:

CIS 111 Introduction to Computer Programming

Credits: 3

Description: Introduction to programming. Principles and applications of programming fundamentals: state, control structures, methods, and arrays. Programming projects.

This course is intended for non-majors.

Note: Two hours lecture, two hours lab per week.

Rationale: These changes better reflect the way the course is being taught.

Impact: The following programs list this course as either required or recommended:

- Actuarial Mathematics Program
- Business Teacher Licensure Program
- Mathematics Teacher Licensure Program
- Mathematics Teacher Preparation Program
- Mathematics
- Mathematics Pre-Graduate Program
- Mathematics – Second Teaching Field in Secondary Education
- Statistics

We have informed Prof. Louis Pigno (Dept. Head, Mathematics), Prof. Debbie Mercer (Assoc. Dean, Education), and Prof. James Neill (Dept. Head, Statistics) of these proposed changes.

Effective: Fall 2012.

Change:

From:

CIS 200 Fundamentals ~~of Software Design~~

Credits: (4)

Description: Principles of algorithm design and their application to procedural programming: state, control structures, ~~functions, modules~~. Patterns of conditional and iterative control structure. Program testing. Introduction to ~~data structures,~~ classes, and objects. Programming projects.

Format: 3 hrs. lec., 2 hrs. lab a week.

Prerequisites: MATH 100 and either ~~CIS 105, CIS 111, AP computer science credit, or equivalent experience~~

To:

CIS 200 Programming Fundamentals

Credits: (4)

Description: Principles of algorithm design and their application to procedural programming: state, control structures, methods. Patterns of conditional and iterative control structure. Program testing. Introduction to arrays, classes, and objects. Programming projects.

Format: 3 hrs. lec., 2 hrs. lab a week.

Prerequisites: MATH 100 and either CIS 115 or ECE 241

Rationale: The revised title and course description better reflect the way the course is currently being taught. The format reflects the way we are currently offering the course, but it has not been in the Catalog. The prerequisite change is intended to discourage students from taking this course in their first semester, as well as to ensure that they have seen a little bit of programming. We hope that the prerequisite change will improve our student retention.

Impact: The following programs list this course as either required or recommended:

- Applied Mathematics
- Computer Engineering
- Mathematics
- Statistics

We have informed Prof. Louis Pigno (Dept. Head, Mathematics), Prof. Bill Kuhn (Electrical and Computer Engineering), and Prof. James Neill (Dept. Head, Statistics) of these proposed changes.

Effective: Fall 2012

CURRICULUM CHANGES

Department of Computing and Information Sciences

Information Systems Curriculum and Computer Science Curriculum

Drop:

- DEN 325 (1 Credit)
- Unrestricted Elective (2 Credits)

Total Dropped Credits: 3

Add:

- Communication Elective (3 Credits)

Total Added Credits: 3

Add the Following Note: The Communications Elective must be chosen from:

- COMM 326 Small Group Discussion Methods
- COMM 322 Interpersonal Communication
- MANGT 420 Management Concepts
- THTRE 261 Fundamentals of Acting
- THTRE 265 Fundamentals of Improvisation

Rationale: While the majority of our students have jobs and internships before graduation, thus having some experience in professional settings, and derive some benefit from DEN325, consistent feedback from alumni, current students, and organizations hiring our graduates indicates that more developed interpersonal skills, both in interacting on small teams and individuals, would enhance our students' value to their future employers. We therefore feel the need to increase our students' confidence and abilities when interacting with others, particularly in

group/professional settings with non-engineers. In addition, we plan to incorporate other personal and professional development topics in other courses in our curricula, particularly in CIS 115 Introduction to Computing Science. We note the existing curriculum requires public speaking (COMM 105 or COMM 106), for one to many interactions, and written communication (ENGL 516), which includes formal writing, email, and research. It is lacking, however, in small group skills or experience in reading and reacting to interpersonal interactions while maintaining a clear focus on the purpose of the interaction. We anticipate most students will take COMM 322, COMM 326, or MANGT 420 to satisfy the revised requirement, but THTRE 261 and THTRE 265 both offer more innovative options for developing interpersonal skills and increasing confidence. The heads of these departments have indicated they feel these classes would adequately address our needs.

Effective: Fall 2012

Impact: We have been in contact with the Department of Communication Studies, Theatre, and Dance, and the Department of Management. Both have indicated that they are equipped to handle the additional load.

Information Systems Curriculum:

Bachelor's degree requirements	Bachelor's degree requirements
Freshman year	Freshman year
Fall semester (15 credit hours)	Fall semester (15 credit hours)
Humanities/social science elective (first of six) Credits: (3)	Humanities/social science elective (first of six) Credits: (3)
Unrestricted elective Credits: (3)	Unrestricted elective Credits: (3)
CIS 115 - Introduction to Computing Science Credits: (3)	CIS 115 - Introduction to Computing Science Credits: (3)
ENGL 100 - Expository Writing I Credits: (3)	ENGL 100 - Expository Writing I Credits: (3)
MATH 205 - General Calculus and Linear Algebra Credits: (3)	MATH 205 - General Calculus and Linear Algebra Credits: (3)
Spring semester (14-15 credit hours)	Spring semester (14-15 credit hours)
Humanities/social science elective (second of six) Credits: (3)	Humanities/social science elective (second of six) Credits: (3)
Natural science elective (first of three) Credits: (3)	Natural science elective (first of three) Credits: (3)
CMST 135 - Web Page Development I Credits: (3)	CMST 135 - Web Page Development I Credits: (3)
COMM 105 - Public Speaking IA Credits: (2)	COMM 105 - Public Speaking IA Credits: (2)
or	or
COMM 106 - Public Speaking I Credits: (3)	COMM 106 - Public Speaking I Credits: (3)
ECE 241 - Introduction to Computer Engineering Credits: (3)	ECE 241 - Introduction to Computer Engineering Credits: (3)
Sophomore year	Sophomore year
Fall semester (16 credit hours)	Fall semester (16 credit hours)
Humanities/social science elective (third of six) Credits: (3)	Humanities/social science elective (third of six) Credits: (3)

Unrestricted elective Credits: (3) CIS 200 - Fundamentals of Software Design Credits: (4) ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3) Spring semester (15 credit hours) Natural science elective with laboratory (second of three) Credits: (4) Unrestricted elective Credits: ~~(4)~~ CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) ~~DEN 325 - Introduction to Personal and Professional Development Credits: (1)~~ Junior year Fall semester (16 credit hours) Unrestricted elective Credits: (3) ACCTG 231 - Accounting for Business Operations Credits: (3) CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) STAT 325 - Introduction to Statistics Credits: (3) Spring semester (15-16 credit hours) Humanities/social ~~scienc~~ elective (fourth of six)	Unrestricted elective Credits: (3) CIS 200 - Fundamentals of Software Design Credits: (4) ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3) Spring semester (15 credit hours) Natural science elective with laboratory (second of three) Credits: (4) Unrestricted elective Credits: <u>(2)</u> CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) <u>Communication Elective Credits: (3)</u> Junior year Fall semester (16 credit hours) Unrestricted elective Credits: (3) ACCTG 231 - Accounting for Business Operations Credits: (3) CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) STAT 325 - Introduction to Statistics Credits: (3) Spring semester (15-16 credit hours) Humanities/social <u>science</u> elective (fourth of six) Credits: (3)

Credits: (3) Unrestricted elective Credits: (6-7) CIS 450 - Computer Architecture and Operations Credits: (3) CIS 526 - Web Interface Design Credits: (3) Senior year Fall semester (16 credit hours) Technical elective Credits: (3) Humanities/social science elective (fifth of six) Credits: (3) CIS 415 - Computers and Society Credits: (1) CIS 525 - Telecommunications and Data Communication Systems Credits: (3) CIS 540 - Software Engineering Project I Credits: (3) or CIS 543 - Software Engineering Design Project Credits: (3) CIS 562 - Enterprise Information Systems Credits: (3) Spring semester (16 credit hours) Humanities/social science elective (sixth of six) Credits: (3) Natural science elective with laboratory (third of three) Credits: (4) Technical elective Credits: (3) Unrestricted electives Credits: (3) CIS 597 - Information Systems Project Credits: (3) Notes A grade of C or better is required for all graded courses	Unrestricted elective Credits: (6-7) CIS 450 - Computer Architecture and Operations Credits: (3) CIS 526 - Web Interface Design Credits: (3) Senior year Fall semester (16 credit hours) Technical elective Credits: (3) Humanities/social science elective (fifth of six) Credits: (3) CIS 415 - Computers and Society Credits: (1) CIS 525 - Telecommunications and Data Communication Systems Credits: (3) CIS 540 - Software Engineering Project I Credits: (3) or CIS 543 - Software Engineering Design Project Credits: (3) CIS 562 - Enterprise Information Systems Credits: (3) Spring semester (16 credit hours) Humanities/social science elective (sixth of six) Credits: (3) Natural science elective with laboratory (third of three) Credits: (4) Technical elective Credits: (3) Unrestricted electives Credits: (3) CIS 597 - Information Systems Project Credits: (3) Notes A grade of C or better is required for all graded courses listed by specific course number above.

listed by specific course number above. All students new to the CIS department must complete CIS 115. Humanities/social science electives must be taken from the list of courses approved by the College of Engineering. IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program. Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors. Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements. For additional information about the University General Education program, check the requirements specified by the College of Engineering. Total hours required for graduation (124)	All students new to the CIS department must complete CIS 115. Humanities/social science electives must be taken from the list of courses approved by the College of Engineering. The Communications Elective must be chosen from: • COMM 326 Small Group Discussion Methods • COMM 322 Interpersonal Communication • MANGT 420 Management Concepts • THTRE 261 Fundamentals of Acting • THTRE 265 Fundamentals of Improvisation IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program. Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors. Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements. For additional information about the University General Education program, check the requirements specified by the College of Engineering. Total hours required for graduation (124 credit hours)

Computer Science Curriculum:

The Computer Science program is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org.	The Computer Science program is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org.
Bachelor's degree requirements	Bachelor's degree requirements
CS Option	CS Option
Freshman year	Freshman year
Fall semester (15-16 credit hours)	Fall semester (15-16 credit hours)
Humanities/social science elective (first of five) Credits: (3)	Humanities/social science elective (first of five) Credits: (3)
CIS 115 - Introduction to Computing Science Credits: (3)	CIS 115 - Introduction to Computing Science Credits: (3)
COMM 105 - Public Speaking IA Credits: (2)	COMM 105 - Public Speaking IA Credits: (2)
or	or
COMM 106 - Public Speaking I Credits: (3)	COMM 106 - Public Speaking I Credits: (3)
ENGL 100 - Expository Writing I Credits: (3)	ENGL 100 - Expository Writing I Credits: (3)
MATH 220 - Analytic Geometry and Calculus I Credits: (4)	MATH 220 - Analytic Geometry and Calculus I Credits: (4)
Spring semester (15 credit hours)	Spring semester (15 credit hours)
Natural science elective with laboratory (first of four) Credits: (4)	Natural science elective with laboratory (first of four) Credits: (4)
CIS 200 - Fundamentals of Software Design Credits: (4)	CIS 200 - Fundamentals of Software Design Credits: (4)
ECE 241 - Introduction to Computer Engineering Credits: (3)	ECE 241 - Introduction to Computer Engineering Credits: (3)
	MATH 221 - Analytic Geometry and Calculus II

MATH 221 - Analytic Geometry and Calculus II Credits: (4)	Credits: (4)
Sophomore year Fall semester (~~16~~ credit hours)	Sophomore year Fall semester (15 credit hours)
Humanities/social science elective (second of five) Credits: (3) CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) ~~DEN 325 - Introduction to Personal and Professional Development Credits: (1)~~ ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3)	Humanities/social science elective (second of five) Credits: (3) CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3)
Spring semester (~~15~~ 16 credit hours) Humanities/social science elective (third of five) Credits: (3) Natural science elective (second of four) Credits: (3) ~~Unrestricted elective Credits: (2-3)~~ CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) MATH 510 - Discrete Mathematics Credits: (3)	Spring semester (16 credit hours) Humanities/social science elective (third of five) Credits: (3) Natural science elective (second of four) Credits: (3) Communication Elective Credits: (3) CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) MATH 510 - Discrete Mathematics Credits: (3)
Junior year Fall semester (16 credit hours)	Junior year Fall semester (16 credit hours)
Humanities/social science elective (fourth of five) Credits: (3) Natural science elective (third of four) Credits: (3)	Humanities/social science elective (fourth of five) Credits: (3)

Unrestricted elective Credits: (6) CIS 415 - Computers and Society Credits: (1) CIS 505 - Introduction to Programming Languages Credits: (3) Spring semester (15 credit hours) Humanities/social science elective (fifth of five) Credits: (3) Unrestricted elective Credits: (3) CIS 450 - Computer Architecture and Operations Credits: (3) CIS 575 - Introduction to Algorithm Analysis Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) Senior year Fall semester (15 credit hours) Technical elective (first of two) Credits: (3) Unrestricted elective Credits: (3) CIS 520 - Operating Systems I Credits: (3) CIS 560 - Database System Concepts Credits: (3) MATH 551 - Applied Matrix Theory Credits: (3) Spring semester (16 credit hours) Technical elective (second of two) Credits: (3) Natural science elective with laboratory (fourth of four) Credits: (4) Unrestricted elective Credits: (3) CIS 598 - Computer Science Project Credits: (3) STAT 510 - Introductory Probability and Statistics I	Natural science elective (third of four) Credits: (3) Unrestricted elective Credits: (6) CIS 415 - Computers and Society Credits: (1) CIS 505 - Introduction to Programming Languages Credits: (3) Spring semester (15 credit hours) Humanities/social science elective (fifth of five) Credits: (3) Unrestricted elective Credits: (3) CIS 450 - Computer Architecture and Operations Credits: (3) CIS 575 - Introduction to Algorithm Analysis Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) Senior year Fall semester (15-16 credit hours) Technical elective (first of two) Credits: (3) Unrestricted elective Credits: (3-4) CIS 520 - Operating Systems I Credits: (3) CIS 560 - Database System Concepts Credits: (3) MATH 551 - Applied Matrix Theory Credits: (3) Spring semester (16 credit hours) Technical elective (second of two) Credits: (3) Natural science elective with laboratory (fourth of four) Credits: (4) Unrestricted elective Credits: (3)

Credits: (3) Notes A grade of C or better is required for all graded courses listed by specific course number above. All students new to the CIS department must complete CIS 115. Natural science courses must have departmental approval. Humanities/social science electives must be taken from the list ~~pproved~~ by the College of Engineering. Total hours required for graduation (124 credit hours)	CIS 598 - Computer Science Project Credits: (3) STAT 510 - Introductory Probability and Statistics I Credits: (3) Notes A grade of C or better is required for all graded courses listed by specific course number above. All students new to the CIS department must complete CIS 115. Natural science courses must have departmental approval. Humanities/social science electives must be taken from the list approved by the College of Engineering. The Communications Elective must be chosen from: • COMM 326 Small Group Discussion Methods • COMM 322 Interpersonal Communication • MANGT 420 Management Concepts • THTRE 261 Fundamentals of Acting • THTRE 265 Fundamentals of Improvisation Total hours required for graduation (124 credit hours)
SE Option Freshman year Fall semester (15-16 credit hours) Humanities/social science elective (first of five) Credits: (3) CIS 115 - Introduction to Computing Science Credits:	SE Option Freshman year Fall semester (15-16 credit hours) Humanities/social science elective (first of five) Credits:

(3) COMM 105 - Public Speaking IA Credits: (2) or COMM 106 - Public Speaking I Credits: (3) ENGL 100 - Expository Writing I Credits: (3) MATH 220 - Analytic Geometry and Calculus I Credits: (4) Spring semester (15 credit hours) Natural science elective with laboratory (first of four) Credits: (4) CIS 200 - Fundamentals of Software Design Credits: (4) ECE 241 - Introduction to Computer Engineering Credits: (3) MATH 221 - Analytic Geometry and Calculus II Credits: (4) Sophomore year Fall semester (~~16~~ credit hours) Humanities/social science elective (second of five) Credits: (3) CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) ~~DEN 325 - Introduction to Personal and Professional Development Credits: (1)~~ ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3) Spring semester (~~15~~ 16 credit hours)	(3) CIS 115 - Introduction to Computing Science Credits: (3) COMM 105 - Public Speaking IA Credits: (2) or COMM 106 - Public Speaking I Credits: (3) ENGL 100 - Expository Writing I Credits: (3) MATH 220 - Analytic Geometry and Calculus I Credits: (4) Spring semester (15 credit hours) Natural science elective with laboratory (first of four) Credits: (4) CIS 200 - Fundamentals of Software Design Credits: (4) ECE 241 - Introduction to Computer Engineering Credits: (3) MATH 221 - Analytic Geometry and Calculus II Credits: (4) Sophomore year Fall semester (<u>15</u> credit hours) Humanities/social science elective (second of five) Credits: (3) CIS 300 - Data and Program Structures Credits: (3) CIS 301 - Logical Foundations of Programming Credits: (3) ECON 110 - Principles of Macroeconomics Credits: (3) ENGL 200 - Expository Writing II Credits: (3)

Humanities/social science elective (third of five) Credits: (3) Natural science elective (second of four) Credits: (3) ~~Unrestricted elective Credits: (2-3)~~ CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) MATH 510 - Discrete Mathematics Credits: (3) Junior year Fall semester (16 credit hours) Humanities/social science elective (fourth of five) Credits: (3) Natural science elective (third of four) Credits: (3) Unrestricted elective Credits: (3) CIS 415 - Computers and Society Credits: (1) CIS 450 - Computer Architecture and Operations Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) Spring semester (15 credit hours) Humanities/social science elective (fifth of five) Credits: (3) Unrestricted elective Credits: (6) CIS 625 - Concurrent Software Systems Credits: (3) STAT 510 - Introductory Probability and Statistics I Credits: (3) Senior year Fall semester (15 credit hours)	Spring semester (16 credit hours) Humanities/social science elective (third of five) Credits: (3) Natural science elective (second of four) Credits: (3) <u>Communication Elective Credits: (3)</u> CIS 308 - C/C++ Language Laboratory Credits: (1) CIS 501 - Software Architecture and Design Credits: (3) MATH 510 - Discrete Mathematics Credits: (3) Junior year Fall semester (16 credit hours) Humanities/social science elective (fourth of five) Credits: (3) Natural science elective (third of four) Credits: (3) Unrestricted elective Credits: (3) CIS 415 - Computers and Society Credits: (1) CIS 450 - Computer Architecture and Operations Credits: (3) ENGL 516 - Written Communication for the Sciences Credits: (3) Spring semester (15 credit hours) Humanities/social science elective (fifth of five) Credits: (3) Unrestricted elective Credits: (6) CIS 625 - Concurrent Software Systems Credits: (3) STAT 510 - Introductory Probability and Statistics I Credits: (3) Senior year Fall semester (15<u>-16</u> credit hours)

Technical elective (first of two) Credits: (3)	
Unrestricted elective Credits: (3)	Technical elective (first of two) Credits: (3)
CIS 540 - Software Engineering Project I Credits: (3)	Unrestricted elective Credits: (3-4)
CIS 562 - Enterprise Information Systems Credits: (3)	CIS 540 - Software Engineering Project I Credits: (3)
MATH 551 - Applied Matrix Theory Credits: (3)	CIS 562 - Enterprise Information Systems Credits: (3)
	MATH 551 - Applied Matrix Theory Credits: (3)
Spring semester (16 credit hours)	
Technical elective (second of two) Credits: (3)	Spring semester (16 credit hours)
Natural science elective with laboratory (fourth of four) Credits: (4)	Technical elective (second of two) Credits: (3)
Unrestricted elective Credits: (3)	Natural science elective with laboratory (fourth of four) Credits: (4)
CIS 541 - Software Engineering Project II Credits: (3)	Unrestricted elective Credits: (3)
CIS 544 - Advanced Software Design and Development Credits: (3)	CIS 541 - Software Engineering Project II Credits: (3)
	CIS 544 - Advanced Software Design and Development Credits: (3)
Notes	
A grade of C or better is required for all graded courses listed by specific course number above.	Notes
	A grade of C or better is required for all graded courses listed by specific course number above.
All students new to the CIS department must complete CIS 115.	
	All students new to the CIS department must complete CIS 115.
Natural science courses must have departmental approval.	
	Natural science courses must have departmental approval.
Humanities/social science electives must be taken from the list of courses approved by the College of Engineering.	
	Humanities/social science electives must be taken from the list of courses approved by the College of Engineering.
	The Communications Elective must be chosen from:

	• COMM 326 Small Group Discussion Methods • COMM 322 Interpersonal Communication • MANGT 420 Management Concepts • THTRE 261 Fundamentals of Acting • THTRE 265 Fundamentals of Improvisation
IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.	IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.
Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.	Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.
Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements.	Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements.
For additional information about the University General Education program, check the requirements specified by the College of Engineering.	For additional information about the University General Education program, check the requirements specified by the College of Engineering.
Total hours required for graduation (124 credit hours)	Total hours required for graduation (124 credit hours)

Department of Electrical and Computer Engineering

Electrical Engineering Curriculum Change:

Add C prerequisite requirement:

Effective: Fall 2012

Rationale:

- **Add a C-prerequisite policy**

In previous years, the College of Engineering required C grades or better in prerequisite courses before a student could enroll in a subsequent course. This policy was dropped in 2002 due in part to difficulties in enforcement (although it remained on the books with respect to the Calculus sequence). With recent improvements in the student information system (ISIS), efficient enforcement is now practical, opening the option of re-introducing a C-policy.

While the College of Engineering currently has not settled on a uniform college-wide re-introduction of a C-policy, several departments now have C policies in their individual curriculums. Some departments require that students must earn C grades to graduate (C-graduation policy), while other engineering departments at K-State and peer schools require that students earn C's in prerequisite courses (C-prerequisite policy).

Following extensive discussions, the ECE department voted to re-introduce a C-policy into the EE and CMPEN curricula. Moreover, it was determined that nearly all courses which could be prerequisites are offered each semester, so that the C-graduation type policy used by some departments is not the best option for our students. The ECE department faculty believes that the more rigorous C-prerequisite policy in the Notes section of the curriculum change below is in the best interest of our students' learning and preparation for their careers.

Impact (i.e. if this impacts another unit): The following units could see an increase in retakes as a result of this policy: CHM, PHYS, MATH, STAT, CIS, DEN, ENGL, ME

Entire curriculum, curriculum description or admission criteria must be shown below.

FROM: (Current list of courses for the curriculum, curriculum description, and admission criteria.)

TO: To: (Proposed list of courses for the curriculum, curriculum description, and admission criteria.)

Electrical Engineering (EE) (B.S.)	**Electrical Engineering (EE) (B.S.)**
The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.	The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.
Bachelor's degree requirements	**Bachelor's degree requirements**
Freshman year	**Freshman year**
Fall semester (16 credit hours)	**Fall semester (16 credit hours)**
• CHM 210 - Chemistry I **Credits:** (4) • COMM 105 - Public Speaking IA **Credits:** (2)	• CHM 210 - Chemistry I **Credits:** (4) • COMM 105 - Public Speaking IA **Credits:** (2)

- ECE 015 - New Student Assembly **Credits:** (0)
- ECE 210 - Introduction to Electrical Engineering **Credits:** (3)
- ENGL 100 - Expository Writing I **Credits:** (3)
- MATH 220 - Analytic Geometry and Calculus I **Credits:** (4)

Spring semester (16 credit hours)

- BIOL 198 - Principles of Biology **Credits:** (4)
- or
- CHM 230 - Chemistry II **Credits:** (4)
- ECON 110 - Principles of Macroeconomics **Credits:** (3)
- ECE 015 - New Student Assembly **Credits:** (0)
- MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 213 - Engineering Physics I **Credits:** (5)

Sophomore year

Fall semester (16 credit hours)

- DEN 325 - Introduction to Personal and Professional Development **Credits:** (1)
- ECE 241 - Introduction to Computer Engineering **Credits:** (3)
- ECE 410 - Circuit Theory I **Credits:** (3)
- MATH 240 - Elementary Differential Equations **Credits:** (4)
- PHYS 214 - Engineering Physics II **Credits:** (5)

Spring semester (16 credit hours)

- ECE 015 - New Student Assembly **Credits:** (0)
- ECE 210 - Introduction to Electrical Engineering **Credits:** (3)
- ENGL 100 - Expository Writing I **Credits:** (3)
- MATH 220 - Analytic Geometry and Calculus I **Credits:** (4)

Spring semester (16 credit hours)

- BIOL 198 - Principles of Biology **Credits:** (4)
- or
- CHM 230 - Chemistry II **Credits:** (4)
- ECON 110 - Principles of Macroeconomics **Credits:** (3)
- ECE 015 - New Student Assembly **Credits:** (0)
- MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 213 - Engineering Physics I **Credits:** (5)

Sophomore year

Fall semester (16 credit hours)

- DEN 325 - Introduction to Personal and Professional Development **Credits:** (1)
- ECE 241 - Introduction to Computer Engineering **Credits:** (3)
- ECE 410 - Circuit Theory I **Credits:** (3)
- MATH 240 - Elementary Differential Equations **Credits:** (4)
- PHYS 214 - Engineering Physics II **Credits:** (5)

Spring semester (16 credit hours)

- CIS 209 - C Programming for Engineers **Credits:** (3)
- ECE 511 - Circuit Theory II **Credits:** (3)
- ECE 525 - Electronics I **Credits:** (3)
- MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)
- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)

Junior year

Fall semester (15 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE Technical Electives **Credits:** (3)
- ECE 431 - Microcontrollers **Credits:** (3)
- ECE 526 - Electronics II **Credits:** (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)

Spring semester (17 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE 502 - Electronics Laboratory **Credits:** (2)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (3)
- ECE 581 - Energy Conversion I **Credits:** (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Senior year

- CIS 209 - C Programming for Engineers **Credits:** (3)
- ECE 511 - Circuit Theory II **Credits:** (3)
- ECE 525 - Electronics I **Credits:** (3)
- MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)
- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)

Junior year

Fall semester (15 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE Technical Electives **Credits:** (3)
- ECE 431 - Microcontrollers **Credits:** (3)
- ECE 526 - Electronics II **Credits:** (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)

Spring semester (17 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE 502 - Electronics Laboratory **Credits:** (2)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (3)
- ECE 581 - Energy Conversion I **Credits:** (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Senior year

Fall semester (17 credit hours)

- ***Technical electives **Credits:** (6)
- **Humanities/Social Science Elective **Credits:** (3)
- CE 530 - Statics and Dynamics **Credits:** (3)
- CHE 354 - Basic Concepts in Materials Science and Engineering **Credits:** (1)
- CHE 356 - Fundamentals of Electrical Properties **Credits:** (1)
- ECE 530 - Control Systems Design **Credits:** (3)

Spring semester (16 credit hours)

- ***Technical electives **Credits:** (9)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 590 - Seminar **Credits:** (1)
- ME 513 - Thermodynamics I **Credits:** (3)

Electrical engineering options

General option

In the general option a set of specializations is possible. Students are expected to select a set of interrelated courses that fulfills an engineering design experience and allows for concentration in one area. Examples of such areas are communication systems and signal processing, digital electronics, integrated circuits and devices, and power systems.

Bioengineering option

Fall semester (17 credit hours)

- ***Technical electives **Credits:** (6)
- **Humanities/Social Science Elective **Credits:** (3)
- CE 530 - Statics and Dynamics **Credits:** (3)
- CHE 354 - Basic Concepts in Materials Science and Engineering **Credits:** (1)
- CHE 356 - Fundamentals of Electrical Properties **Credits:** (1)
- ECE 530 - Control Systems Design **Credits:** (3)

Spring semester (16 credit hours)

- ***Technical electives **Credits:** (9)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 590 - Seminar **Credits:** (1)
- ME 513 - Thermodynamics I **Credits:** (3)

Electrical engineering options

General option

In the general option a set of specializations is possible. Students are expected to select a set of interrelated courses that fulfills an engineering design experience and allows for concentration in one area. Examples of such areas are communication systems and signal processing, digital electronics, integrated circuits and devices, and power systems.

Bioengineering option

Bioengineering is the application of engineering principles to measurement, analysis, and design issues faced by the medical and life science communities. The health care industry is one of the fastest-growing business sectors in the United States. Through the bioengineering option, undergraduate students can obtain a BS degree in electrical engineering while acquiring a highly marketable biotechnology skill set. Areas of emphasis within this option are medical instrumentation (biosensors and data acquisition tools), biosignal analysis, and biomedical product design.

Candidates for this option include undergraduate electrical engineering and pre-medicine students who seek a multidisciplinary environment focused upon using technology to increase quality of life. Instructors from various colleges at K-State contribute to this curriculum.

The curriculum accommodates pre-medicine students through the acceptance of core premedicine courses as complementary electives. Students pursuing a pre-medicine program should contact the dean's office in the College of Arts and Sciences for additional information.

Notes

*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only three hours of ENGL 415 prerequisite credits towards degree requirements.

**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.

***Technical electives must be selected to complete one of the areas of specialization.

IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements

Bioengineering is the application of engineering principles to measurement, analysis, and design issues faced by the medical and life science communities. The health care industry is one of the fastest-growing business sectors in the United States. Through the bioengineering option, undergraduate students can obtain a BS degree in electrical engineering while acquiring a highly marketable biotechnology skill set. Areas of emphasis within this option are medical instrumentation (biosensors and data acquisition tools), biosignal analysis, and biomedical product design.

Candidates for this option include undergraduate electrical engineering and pre-medicine students who seek a multidisciplinary environment focused upon using technology to increase quality of life. Instructors from various colleges at K-State contribute to this curriculum.

The curriculum accommodates pre-medicine students through the acceptance of core premedicine courses as complementary electives. Students pursuing a pre-medicine program should contact the dean's office in the College of Arts and Sciences for additional information.

Notes

*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only three hours of ENGL 415 prerequisite credits towards degree requirements.

**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.

***Technical electives must be selected to complete one of the areas of specialization.

IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements

of the K-State 8 General Education Program. **Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.** **Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements.** For additional information about the University General Education program, check the requirements specified by the College of Engineering. **Total hours required for graduation (129)**	**of the K-State 8 General Education Program.** **Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.** **Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements.** **For the good and benefit of the student and their future employer, the ECE department enforces a C- prerequisite policy for all courses listed by number in the curriculum table above and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course. .** For additional information about the University General Education program, check the requirements specified by the College of Engineering. **Total hours required for graduation (129)**

Computer Engineering Curriculum Change:

Add a C prerequisite policy

Effective: Fall 2012

Rationale:

There is one edit:

- **Add a C-prerequisite policy**

In previous years, the College of Engineering required C grades or better in prerequisite courses before a student could enroll in a subsequent course. This policy was dropped in 2002 due in part to difficulties in enforcement (although it remained on the books with respect to the Calculus sequence). With recent improvements in the student information system (ISIS), efficient enforcement is now practical, opening the option of re-introducing a C-policy.

While the College of Engineering currently has not settled on a uniform college-wide re-introduction of a C-policy, several departments now have C policies in their individual curriculums. Some departments require that students must earn C grades to graduate (C-graduation policy), while other engineering departments at K-State and peer schools require that students earn C's in prerequisite courses (C-prerequisite policy).

Following extensive discussions, the ECE department voted to re-introduce a C-policy into the EE and CMPEN curricula. Moreover, it was determined that nearly all courses which could be prerequisites are offered each semester, so that the C-graduation type policy used by some departments is not the best option for our students. The ECE department faculty believes that the more rigorous C-prerequisite policy in the Notes section of the curriculum change below is in the best interest of our students' learning and preparation for their careers.

Impact (i.e. if this impacts another unit): The following units could see an increase in retakes as a result of this policy: MATH, CIS, PHYS, STAT, DEN, ENGL, ME

Entire curriculum, curriculum description or admission criteria must be shown below.

FROM: (Current list of courses for the curriculum, curriculum description, and admission criteria.)

TO: To: (Proposed list of courses for the curriculum, curriculum description, and admission criteria.)

Computer Engineering (CMPEN) (B.S.)

The Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Bachelor's degree requirements

Freshman year

Fall semester (16 credit hours)

- CHM 210 - Chemistry I **Credits:** (4)
- COMM 105 - Public Speaking IA **Credits:** (2)
- ECE 015 - New Student Assembly **Credits:** (0)
- ECE 241 - Introduction to Computer Engineering **Credits:** (3)
- * ENGL 100 - Expository Writing I **Credits:** (3)
- MATH 220 - Analytic Geometry and Calculus I **Credits:** (4)

Spring semester (16 credit hours)

- CIS 200 - Fundamentals of Software Design **Credits:** (4)
- ECE 015 - New Student Assembly **Credits:**

Computer Engineering (CMPEN) (B.S.)

The Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Bachelor's degree requirements

Freshman year

Fall semester (16 credit hours)

- CHM 210 - Chemistry I **Credits:** (4)
- COMM 105 - Public Speaking IA **Credits:** (2)
- ECE 015 - New Student Assembly **Credits:** (0)
- ECE 241 - Introduction to Computer Engineering **Credits:** (3)
- * ENGL 100 - Expository Writing I **Credits:** (3)
- MATH 220 - Analytic Geometry and Calculus I **Credits:** (4)

Spring semester (16 credit hours)

- CIS 200 - Fundamentals of Software Design **Credits:** (4)
- ECE 015 - New Student Assembly

(0)

- ECE 210 - Introduction to Electrical Engineering **Credits:** (3)
- MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 213 - Engineering Physics I **Credits:** (5)

Sophomore year

Fall semester (16 credit hours)

- CIS 300 - Data and Program Structures **Credits:** (3)
- DEN 325 - Introduction to Personal and Professional Development **Credits:** (1)
- ECE 441 - Design of Digital Systems **Credits:** (3)
- MATH 240 - Elementary Differential Equations **Credits:** (4)
- PHYS 214 - Engineering Physics II **Credits:** (5)

Spring semester (17 credit hours)

- CIS 308 - C/C++ Language Laboratory **Credits:** (1)
- ECON 110 - Principles of Macroeconomics **Credits:** (3)
- ECE 410 - Circuit Theory I **Credits:** (3)
- ECE 431 - Microcontrollers **Credits:** (3)
- MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)
- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)

Junior year

Credits: (0)

- ECE 210 - Introduction to Electrical Engineering **Credits:** (3)
- MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 213 - Engineering Physics I **Credits:** (5)

Sophomore year

Fall semester (16 credit hours)

- CIS 300 - Data and Program Structures **Credits:** (3)
- DEN 325 - Introduction to Personal and Professional Development **Credits:** (1)
- ECE 441 - Design of Digital Systems **Credits:** (3)
- MATH 240 - Elementary Differential Equations **Credits:** (4)
- PHYS 214 - Engineering Physics II **Credits:** (5)

Spring semester (17 credit hours)

- CIS 308 - C/C++ Language Laboratory **Credits:** (1)
- ECON 110 - Principles of Macroeconomics **Credits:** (3)
- ECE 410 - Circuit Theory I **Credits:** (3)
- ECE 431 - Microcontrollers **Credits:** (3)
- MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)
- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)

Junior year

Fall semester (18 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- CIS 501 - Software Architecture and Design **Credits:** (3)
- ECE 511 - Circuit Theory II **Credits:** (3)
- ECE 525 - Electronics I **Credits:** (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)
- MATH 510 - Discrete Mathematics **Credits:** (3)

Spring semester (15 credit hours)

- ***Technical electives **Credits:** (3)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (3)
- ECE 649 - Computer Design I **Credits:** (3)

Senior year

Fall semester (15 credit hours)

- ***Technical Electives **Credits:** (3)
- **Humanities/Social Science Elective **Credits:** (3)
- **** CIS 520 - Operating Systems I **Credits:** (3)
- ECE 643 - Computer Engineering Design Lab **Credits:** (3)

Fall semester (18 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- CIS 501 - Software Architecture and Design **Credits:** (3)
- ECE 511 - Circuit Theory II **Credits:** (3)
- ECE 525 - Electronics I **Credits:** (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)
- MATH 510 - Discrete Mathematics **Credits:** (3)

Spring semester (15 credit hours)

- ***Technical electives **Credits:** (3)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (3)
- ECE 649 - Computer Design I **Credits:** (3)

Senior year

Fall semester (15 credit hours)

- ***Technical Electives **Credits:** (3)
- **Humanities/Social Science Elective **Credits:** (3)
- **** CIS 520 - Operating Systems I **Credits:** (3)
- ECE 643 - Computer Engineering Design Lab **Credits:** (3)

- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Spring semester (16 credit hours)

- ***Technical electives **Credits**: (9)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 590 - Seminar **Credits:** (1)
- ECE 645 - Digital Electronics **Credits:** (3)

Notes

*Students must complete the appropriate prerequisite credits for ENGL 415 , but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements.

**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.

***Technical electives must be selected to complete one of the specialization areas.

****Offered only semester shown in curriculum.

IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.

Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.

Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by

- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Spring semester (16 credit hours)

- ***Technical electives **Credits**: (9)
- **Humanities/Social Science Elective **Credits:** (3)
- ECE 590 - Seminar **Credits:** (1)
- ECE 645 - Digital Electronics **Credits:** (3)

Notes

*Students must complete the appropriate prerequisite credits for ENGL 415 , but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements.

**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.

***Technical electives must be selected to complete one of the specialization areas.

****Offered only semester shown in curriculum.

IMPORTANT NOTES: Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.

Students who began their programs of study in earlier terms under the University General Education (UGE) program may complete their degrees with UGE requirements or may choose to move to the K-State 8. Students should check with their academic advisors to determine which choice would be better. To switch, students must consult with their academic advisors.

Students who are readmitted in Summer 2011 and later will be designated as meeting the K-State 8 by

the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements. For additional information about the University General Education program, check the requirements specified by the College of Engineering. **Total credit hours required for graduation (129)**	**the Office of Admissions. Deans' offices can make an exception for the readmitted student who has completed UGE or who would prefer to complete UGE requirements.** **For the good and benefit of the student and their future employer, the ECE department enforces a C- prerequisite policy for all courses listed by number in the curriculum table above and for any in-major technical electives applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.** For additional information about the University General Education program, check the requirements specified by the College of Engineering. **Total credit hours required for graduation (129)**

College of Technology & Aviation (K-State Salina) (Approved on 4-6-2012)

COURSE DELETION:

Department of Aviation

DELETE: PHYS 342. Aviation Meteorology. (4) Fall, Spring. Basic aviation related meteorology concepts through the study of atmospheric elements and how they generally affect the weather: Introduction to the subject, water in the atmosphere, variables which cause local weather changes, specific aviation associated hazards, understanding meteorological reports and forecasts, meteorological techniques used in predicting weather patterns. Same as PPIL 342.
K-State 8: None

RATIONALE: The Aviation Department changed PPIL 342 to AVT 242 and therefore this course can no longer be considered an equivalent course. Furthermore, there isn't a need or demand by students to offer an aviation meteorology course in addition to AVT 242 created by the Aviation Department.

IMPACT: The Department of Physics has been notified.

EFFECTIVE DATE: Fall 2012

COURSE ADDITIONS:

Department of Arts, Sciences, and Business

ADD: COT 499. Advanced Problems in Arts, Sciences, and Business. (Var.) Fall, Spring, Summer. Opportunity for advanced independent study in specific subject areas in the Department of Arts, Sciences, and Business. Pr.: Consent of instructor.
K-State 8:
None

RATIONALE: This course will provide a means by which faculty in the Arts, Sciences, and Business Department can offer an upper-level "Problems" course. Currently one does not exist in the Department.

IMPACT: No impact on any other department.

EFFECTIVE DATE: Fall 2012

Department of Engineering Technology

ADD: CMST 317. C# Programming. (3) Fall. An in-depth study of the Microsoft C# language and its applications. C# is a development tool within the .NET framework. Students use the language to develop a wide variety of applications including stand-alone applications and those providing access to databases and Web services. Pr.: CMST 347.
K-State 8: Empirical and Quantitative Reasoning.

RATIONALE: This course will allow students to learn a widely used programming language. This course is designated as "empirical and quantitative" as it will require

students to use logic to design C# programming language solutions to problems. Problems will involve calculations, moving and manipulating data, querying data from databases, and creating applications to run on a variety of computer platforms.

IMPACT: No impact on any other department.

EFFECTIVE DATE: Fall 2012

CURRICULUM CHANGES:

Engineering Technology Department

Associate of Technology in Engineering Technology, Web Development Technology Option

Current:	**Proposed:**
Web development technology option (AETA-WD) 66 hours required for graduation ~~**Freshman**~~ ~~**Fall semester (15 credit hours)**~~ CMST 102 Introduction to Computer Technology ..... 3 CMST 103 Introduction to Program Design ..... 3 CMST 135 Web Page Development I ..... 3 ENGL 100 Expository Writing I ..... 3 ETA 020 Engineering Technology Seminar ..... 0 ~~MATH 100 College Algebra ..... 3~~ ~~**Spring semester (17 credit hours)**~~ CMST 130 Introduction to PC Administration ..... 3 CMST 137 Fundamentals of Visual Literacy ..... 3 CMST 155 Web Page Development II ..... 3 CMST 180 Introduction to Database Systems ..... 3 CMST 247 Java Programming I ..... 3 COMM 105Public Speaking IA ..... 2 ~~**Sophomore**~~ ~~**Fall semester (18 credit hours)**~~ BUS 110 Introduction to Business ..... 3 CMST 250 Networking I ..... 3 CMST 335 Web Programming ..... 3 ENGL 302 Technical Writing ..... 3 Humanities/social science/business elective ..... 3 ~~Level 2 programming language elective* ..... 3~~ ~~**Spring semester (16 credit hours)**~~ CMST 332 Web Development Project ..... 3 ECON 110 Principles of Macroeconomics ..... 3 ~~Level 2 programming language elective* ..... 3~~ Humanities/social science elective ..... 3 Science elective/lab ..... 4 ~~*Choose from the list under the Computer Systems Technology option~~	**Web development technology option (AETA-WD)** 66 hours required for graduation **Major requirements (39 credit hours)** **Core courses (33 credit hours)** CMST 102 Introduction to Computer Technology ..... 3 CMST 103 Introduction to Program Design ..... 3 CMST 130 Introduction to PC Administration ..... 3 CMST 135 Web Page Development I ..... 3 CMST 137 Fundamentals of Visual Literacy ..... 3 CMST 155 Web Page Development II ..... 3 CMST 180 Introduction to Database Systems ..... 3 CMST 247 Java Programming I ..... 3 CMST 250 Networking I ..... 3 CMST 332 Web Development Project ..... 3 CMST 335 Web Programming ..... 3 ETA 020 Engineering Technology Seminar ..... 0 **Programming language electives (6 credit hours)** *Choose two courses from:* CMST 310 Visual Basic Programming ..... 3 CMST 317 C# Programming ..... 3 CMST 341 C++ Programming ..... 3 CMST 347 Java Programming II ..... 3 *Other programming electives may be used if approved by the AETA-WD program coordinator.* **Other requirements (27 credit hours)** COMM 105 Public Speaking IA ..... 2 ENGL 100 Expository Writing I ..... 3 ENGL 302 Technical Writing ..... 3 Mathematics requirement* ..... 3 BUS 110 Introduction to Business ..... 3 ECON 110 Principles of Macroeconomics ..... 3 Humanities/Social Science/Business elective ..... 3 Humanities/Social Science elective ..... 3 Science elective with lab ..... 4 * Choose from MATH 100, MATH 150, MATH 205 or MATH 220.

RATIONALE: Changes to the arrangement of courses in the curriculum guide will make the format consistent with the AETA-CP and AETA-DM options. The change to the programming language elective list reflects the addition of a new course. The change to the Mathematics requirements is to prevent transfer students who have already passed a higher math class from being required to take the lower-level MATH 100, College Algebra.

IMPACT: This will have minimal impact on the Department of Arts, Sciences, and Business mainly by keeping students who are more advanced in math out of College Algebra, where they shouldn't be anyway.

EFFECTIVE DATE: Fall 2012

Engineering Technology Department
Associate of Technology in Engineering Technology, Digital Media Technology Option

Current:	**Proposed:**
Digital media technology option (AETA-DM)	**Digital media technology option (AETA-DM)**
66 hours required for graduation	66 hours required for graduation
Major requirements (42 credit hours)	**Major requirements (42 credit hours)**
Core courses (33 credit hours)	**Core courses (33 credit hours)**
CMST 102 Introduction to Computer Technology 3	CMST 102 Introduction to Computer Technology 3
CMST 103 Introduction to Program Design 3	CMST 103 Introduction to Program Design 3
CMST 115 Graphics Software Applications 3	CMST 115 Graphics Software Applications 3
CMST 135 Web Page Development I 3	CMST 135 Web Page Development I 3
CMST 137 Fundamentals of Visual Literacy 3	CMST 137 Fundamentals of Visual Literacy 3
CMST 146 Digital Photography 3	CMST 146 Digital Photography 3
CMST 216 Digital Media I 3	CMST 216 Digital Media I 3
CMST 250 Networking I 3	CMST 250 Networking I 3
CMST 306 Digital Media II 3	CMST 306 Digital Media II 3
CMST 326 Page Layout & Type 3	CMST 326 Page Layout & Type 3
CMST 336 Digital Media Project 3	CMST 336 Digital Media Project 3
ETA 020 Engineering Technology Seminar 0	ETA 020 Engineering Technology Seminar 0
Computer systems technology electives (9 credit hours)	**Computer systems technology electives (9 credit hours)**
Choose three courses from:	*Choose three courses from:*
CMST 270 Introduction to Unix 3	CMST 155 Web Page Development II 3
~~CMST 300 Assembly Language Programming ..... 3~~	CMST 247 Java Programming I 3
CMST 310 Visual Basic Programming 3	CMST 270 Introduction to Unix 3
CMST 315 Networking II 3	CMST 310 Visual Basic Programming 3
CMST 341 C++ Programming 3	CMST 315 Networking II 3
CMST 344 Internetworking 3	CMST 317 C# Programming 3
CMST 347 Java Programming II 3	CMST 323 Game Programming 3
CMST 350 Unix Administration 3	CMST 335 Web Programming 3
CMST 362 Introduction to Business Programming 3	CMST 341 C++ Programming 3
~~CMST 363 Advanced Business Programming ..... 3~~	CMST 344 Internetworking 3
CMST 370 Applied Data Structures 3	CMST 347 Java Programming II 3
CMST 445 Network Security 3	CMST 350 Unix Administration 3
COT 495 Internship ..... max. 3	CMST 355 Network Programming 3
ECET 350 Microprocessor Fundamentals 4	CMST 362 Introduction to Business Programming 3
Other electives may be used if approved by the ~~ETA-CP~~ program coordinator.	CMST 370 Applied Data Structures 3
	CMST 410 Operating Systems 3
	CMST 412 Software Architecture & Design 3
Other requirements (24 credit hours)	CMST 420 Advanced Database Systems 3
COMM 105 Public Speaking IA 2	CMST 445 Network Security 3
COT 150 Humanities through the Arts 3	CMST 470 Applied Algorithm Design 3
ENGL 100 Expository Writing I 3	COT 495 Internship ..... max. 3
ENGL 302 Technical Writing 3	ECET 350 Microprocessor Fundamentals 4
~~MATH 100 College Algebra ..... 3~~	*Other electives may be used if approved by the AETA-DM program coordinator.*
Business elective 3	

Humanities/Social Science Elective.....3 Science elective/lab 4	**Other requirements (24 credit hours)** COMM 105 Public Speaking IA.....2 COT 150 Humanities through the Arts .....3 ENGL 100 Expository Writing I.....3 ENGL 302 Technical Writing.....3 Mathematics requirement* .....3 Business elective.....3 Humanities/Social Science Elective.....3 Science elective/lab .....4 * Choose from MATH 100, MATH 150, MATH 205 or MATH 220.

RATIONALE: Changes to the list of course electives are needed to eliminate courses that are no longer being taught and to add newer courses. The change to the Mathematics requirement is to prevent transfer students who have already passed a higher math class from being required to take the lower-level MATH 100, College Algebra.

IMPACT: This will have minimal impact on the Department of Arts, Sciences, and Business mainly by keeping students who are more advanced in math out of College Algebra, where they shouldn't be anyway.

EFFECTIVE DATE: Fall 2012

Engineering Technology Department
B.S. in Engineering Technology, Computer Systems Technology Option

Current:	**Proposed:**
Computer systems technology option (BETB-CP)	**Computer systems technology option (BETB-CP)**
124 hours required for graduation	124 hours required for graduation
(66 hours associate degree + 58 additional hours)	(66 hours associate degree + 58 additional hours)
Major requirements (63 credit hours)	**Major requirements (63 credit hours)**
Core courses (39 credit hours)	**Core courses (39 credit hours)**
CMST 102 Introduction to Computer Technology 3	CMST 102 Introduction to Computer Technology 3
CMST 103 Introduction to Program Design 3	CMST 103 Introduction to Program Design 3
CMST 130 Introduction to PC Administration 3	CMST 130 Introduction to PC Administration 3
CMST 135 Web Page Development I 3	CMST 135 Web Page Development I 3
CMST 180 Introduction to Database Systems 3	CMST 180 Introduction to Database Systems 3
CMST 247 Java Programming I 3	CMST 247 Java Programming I 3
CMST 250 Networking I 3	CMST 250 Networking I 3
CMST 334 Computer Technology Project Development 3	CMST 334 Computer Technology Project Development 3
CMST 335 Web Programming 3	CMST 335 Web Programming 3
CMST 370 Applied Data Structures 3	CMST 370 Applied Data Structures 3
CMST 420 Advanced Database Systems 3	CMST 420 Advanced Database Systems 3
CMST 460 Systems Analysis and Design 3	CMST 460 Systems Analysis and Design 3
CMST 462 Computer Technology Senior Project 3	CMST 462 Computer Technology Senior Project 3
ETA 020 Engineering Technology Seminar 0	ETA 020 Engineering Technology Seminar 0
Programming language electives (6 credit hours)	**Programming language electives (6 credit hours)**
Choose two courses from:	*Choose two courses from:*
CMST 310 Visual Basic Programming 3	CMST 310 Visual Basic Programming 3
CMST 341 C++ Programming 3	CMST 317 C# Programming 3
CMST 347 Java Programming II 3	CMST 341 C++ Programming 3
Other programming electives may be used if approved by the ~~ETA-CP~~ program coordinator.	CMST 347 Java Programming II 3
	Other programming electives may be used if approved by the BETB-CP program coordinator.
Computer systems technology electives (9 credit hours)	
Choose three courses from:	**Computer systems technology electives (9 credit hours)**
CMST 270 Introduction to Unix 3	*Choose three courses from:*
~~CMST 300 Assembly Language Programming ..... 3~~	CMST 155 Web Page Development II 3
CMST 310 Visual Basic Programming 3	CMST 270 Introduction to Unix 3
CMST 315 Networking II 3	CMST 310 Visual Basic Programming 3
CMST 341 C++ Programming 3	CMST 315 Networking II 3
CMST 344 Internetworking 3	CMST 317 C# Programming 3
CMST 347 Java Programming II 3	CMST 323 Game Programming 3
CMST 350 Unix Administration 3	CMST 341 C++ Programming 3
CMST 362 Introduction to Business Programming 3	CMST 344 Internetworking 3
~~CMST 363 Advanced Business Programming ..... 3~~	CMST 347 Java Programming II 3
~~CMST 370 Applied Data Structures ..... 3~~	CMST 350 Unix Administration 3
CMST 445 Network Security 3	CMST 355 Network Programming 3
COT 495 Industrial Internship ..... max. 3	CMST 362 Introduction to Business Programming 3
ECET 350 Microprocessor Fundamentals 4	CMST 410 Operating Systems 3
Other electives may be used if approved by the ~~ETA-CP~~ program coordinator.	CMST 412 Software Architecture & Design 3
	CMST 445 Network Security 3
	CMST 470 Applied Algorithm Design 3
Advanced Computer Technology Electives (9 credit hours)	COT 495 Industrial Internship ..... max. 3
Choose one of the following tracks:	ECET 350 Microprocessor Fundamentals 4
Programming Track (*choose any three courses***):**	*Other electives may be used if approved by the BETB-CP program coordinator.*
~~CMST 300 Assembly Language Programming ..... 3~~	
~~CMST 362 Introduction to Business Programming ..... 3~~	**Advanced Computer Technology Electives (9 credit hours)**
~~CMST 363 Advanced Business Programming ..... 3~~	*Choose one of the following tracks:*
CMST 410 Operating Systems 3	**Programming Track (***choose any three courses***):**
CMST 412 Software Architecture & Design 3	CMST 355 Network Programming 3
CMST 470 Applied Algorithm Design 3	CMST 410 Operating Systems 3
Networking Track (*choose any three courses***):**	

~~CMST 315 Networking II.....3~~ CMST 344 Internetworking.....3 CMST 350 Unix Administration.....3 CMST 410 Operating Systems .....3 CMST 445 Network Security .....3 **Other requirements (~~61~~ credit hours)** COMM 105 Public Speaking IA.....2 ENGL 100 Expository Writing I.....3 ENGL 200 Expository Writing II .....3 ENGL 302 Technical Writing.....3 ~~MATH 100 College Algebra .....3~~ ~~MATH 151 Applied Plane Trigonometry .....2~~ ~~MATH 220 Analytic Geometry & Calculus I.....4~~ PHILO 105 Introduction to Critical Thinking.....3 PHILO 390 Business Ethics.....3 STAT 325 Elements of Statistics.....3 Business elective.....3 Business elective**.....3 Humanities/Social Science elective .....3 Humanities/Social Science elective** .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective** .....3 Science elective with lab.....4 Science elective with lab.....4 ** Marked electives must be upper division courses, 300 and above.	CMST 412 Software Architecture & Design.....3 CMST 470 Applied Algorithm Design .....3 **Networking Track (*choose any three courses*):** CMST 344 Internetworking.....3 CMST 350 Unix Administration .....3 CMST 355 Network Programming.....3 CMST 410 Operating Systems .....3 CMST 445 Network Security .....3 **Math requirements (9 credit hours)** *Choose three of these four options:* MATH 100 College Algebra .....3 MATH 150 Plane Trigonometry.....3 *or* MATH 151 Applied Plane Trigonometry.....2 MATH 205 General Calculus and Linear Algebra .....3 *or* MATH 220 Analytic Geometry and Calculus I.....4 MATH 221 Analytic Geometry and Calculus II.....4 *Other math courses may be used if approved by the BETB-CP program coordinator.* **Other requirements (52 credit hours)** COMM 105 Public Speaking IA.....2 ENGL 100 Expository Writing I.....3 ENGL 200 Expository Writing II .....3 ENGL 302 Technical Writing.....3 PHILO 105 Introduction to Critical Thinking.....3 PHILO 390 Business Ethics .....3 STAT 325 Elements of Statistics.....3 Business elective.....3 Business elective**.....3 Humanities/Social Science elective .....3 Humanities/Social Science elective** .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective .....3 Humanities/Social Science/Business elective** .....3 Science elective with lab.....4 Science elective with lab.....4 ** Marked electives must be upper division courses, 300 and above.

RATIONALE: Changes to the list of course electives are needed to eliminate courses that are no longer being taught and to add newer courses. The change to the Mathematics requirement is to prevent transfer students who have already passed a higher math class from being required to take the lower-level MATH 100, College Algebra.

IMPACT: This will have minimal impact on the Department of Arts, Sciences, and Business mainly by keeping students who are more advanced in math out of College Algebra, where they shouldn't be anyway.

EFFECTIVE DATE: Fall 2012

Engineering Technology Department
Associate of Technology in Engineering Technology, Computer Systems Technology Option

Current:	**Proposed:**
Computer systems technology option (AETA-CP) 66 hours required for graduation	**Computer systems technology option (AETA-CP)** 66 hours required for graduation
Major requirements (39 credit hours)	**Major requirements (39 credit hours)**
Core courses (24 credit hours)	**Core courses (24 credit hours)**
CMST 102 Introduction to Computer Technology 3	CMST 102 Introduction to Computer Technology 3
CMST 103 Introduction to Program Design..... 3	CMST 103 Introduction to Program Design..... 3
CMST 130 Introduction to PC Administration..... 3	CMST 130 Introduction to PC Administration..... 3
CMST 135 Web Page Development I 3	CMST 135 Web Page Development I..... 3
CMST 180 Introduction to Database Systems..... 3	CMST 180 Introduction to Database Systems 3
CMST 247 Java Programming I 3	CMST 247 Java Programming I..... 3
CMST 250 Networking I 3	CMST 250 Networking I..... 3
CMST 334 Computer Technology Project Development 3	CMST 334 Computer Technology Project Development..... 3
ETA 020 Engineering Technology Seminar..... 0	ETA 020 Engineering Technology Seminar 0
Programming language electives (6 credit hours)	**Programming language electives (6 credit hours)**
Choose two courses from:	*Choose two courses from:*
CMST 310 Visual Basic Programming 3	CMST 310 Visual Basic Programming..... 3
CMST 341 C++ Programming..... 3	CMST 317 C# Programming 3
CMST 347 Java Programming II..... 3	CMST 341 C++ Programming..... 3
Other programming electives may be used if approved by the ~~ETA-CP~~ program coordinator.	CMST 347 Java Programming II ..... 3 *Other programming electives may be used if approved by the AETA-CP program coordinator.*
Computer systems technology electives (9 credit hours)	**Computer systems technology electives (9 credit hours)**
Choose three courses from:	*Choose three courses from:*
CMST 270 Introduction to Unix..... 3	CMST 270 Introduction to Unix 3
~~CMST 300 Assembly Language Programming..... 3~~	CMST 310 Visual Basic Programming..... 3
CMST 310 Visual Basic Programming 3	CMST 315 Networking II 3
CMST 315 Networking II..... 3	CMST 317 C# Programming 3
CMST 341 C++ Programming..... 3	CMST 323 Game Programming..... 3
CMST 344 Internetworking 3	CMST 341 C++ Programming..... 3
CMST 347 Java Programming II..... 3	CMST 344 Internetworking 3
CMST 350 Unix Administration..... 3	CMST 347 Java Programming II 3
CMST 362 Introduction to Business Programming 3	CMST 350 Unix Administration..... 3
~~CMST 363 Advanced Business Programming..... 3~~	CMST 355 Network Programming 3
CMST 370 Applied Data Structures..... 3	CMST 362 Introduction to Business Programming..... 3
CMST 445 Network Security 3	CMST 370 Applied Data Structures 3
COT 495 Internship.....max. 3	CMST 410 Operating Systems..... 3
ECET 350 Microprocessor Fundamentals..... 4	CMST 412 Software Architecture & Design..... 3
Other electives may be used if approved by the AETA-CP program coordinator.	CMST 420 Advanced Database Systems..... 3 CMST 445 Network Security..... 3 CMST 470 Applied Algorithm Design ..... 3 COT 495 Internship..... max. 3 ECET 350 Microprocessor Fundamentals ..... 4 *Other electives may be used if approved by the AETA-CP program coordinator.*
Other requirements (27 credit hours)	**Other requirements (27 credit hours)**
COMM 105 Public Speaking IA..... 2	COMM 105 Public Speaking IA 2
ENGL 100 Expository Writing I..... 3	ENGL 100 Expository Writing I 3
ENGL 302 Technical Writing..... 3	ENGL 302 Technical Writing 3
~~MATH 100 College Algebra..... 3~~	Mathematics requirement* 3
Humanities/Social Science/Business elective..... 3	Humanities/Social Science/Business elective 3
Humanities/Social Science/Business elective..... 3	Humanities/Social Science/Business elective 3
Humanities/Social Science/Business elective..... 3	Humanities/Social Science/Business elective 3
Humanities/Social Science elective 3	Humanities/Social Science elective..... 3
Science elective with lab..... 4	Science elective with lab 4
	* Choose from MATH 100, MATH 150, MATH 205 or MATH 220.

RATIONALE: Changes to the list of course electives are needed to eliminate courses that are no longer being taught and to add newer courses. The change to the Mathematics requirement is to prevent transfer students who have already passed a higher math class from being required to take the lower-level MATH 100, College Algebra.

IMPACT: This will have minimal impact on the Department of Arts, Sciences, and Business mainly by keeping students who are more advanced in math out of College Algebra, where they shouldn't be anyway.

EFFECTIVE DATE: Fall 2012

GRADUATE COURSE CHANGES AND CURRICULUM ADDITIONS (Approved by the Graduate Council 3-6-12 and 4-3-2012)

COURSE ADDITIONS:

College of Arts and Sciences

ADD: GEOG 712 – Internet GIS and Distributed Geographic Information Services. (3) II. Introduces the development and deployment of Internet maps and GIS-related web services. Students will use virtual globes and Internet map servers to learn the techniques of Internet mapping and development/delivery of geodata and geoprocessing services via the Web. Studio-style classes will focus on building the necessary skills for creating, as well as the practical applications of, customized GIS map applications and "mashups", web-based GIS services, and mobile GIS applications. Pr.: GEOG 708.

RATIONALE: The Internet is increasingly being used as the means to deliver maps, geographic data, and spatial data processing services to end users. This proposed course fills a void in our current geographic information science (GIScience) curriculum at the senior undergraduate and graduate levels by building on prerequisites such as GEOG 508 GIS I and GEOG 708 GIS II to better understand client-server computing from a GIScience perspective and practice the techniques required to author and serve Internet-based map products and web-based geographic services.

IMPACT: None

EFFECTIVE DATE: Spring 2013

ADD: MATH 635 – Dynamics, Chaos, and Fractals. (3) I. An introduction to one dimensional real and complex dynamics: attracting and repelling cycles, iterations of quadratic polynomials, bifurcation theory, chaos, Hausdorff measures and Hausdorff dimension, fractals, Julia and Fatou sets, and Mandelbrot sets. Pr.: MATH 221.

RATIONALE: Dynamics and chaos are becoming a major area of mathematics, which also provides an excellent area for REU projects. We need to add an additional elective course for our undergraduates in this area. Recent hires in the department include faculty with research specialties in this area to teach the course.

IMPACT: None

EFFECTIVE DATE: Fall 2012

ADD: MATH 843 – Advanced Probability I. (3) I. Review of measure theory notions specific to probability, including classical limit theorems, constructions of Brownian motion, Stochastic integration, the martingale representation theorem and martingale-based function spaces. Pr.: STAT 510 and MATH 821.

RATIONALE: The mathematical foundations of probability theory were laid down during the twentieth century and established an entirely new branch of mathematics with many applications to the physical sciences and beyond. In the last two decades, probability has found applications to traditional mathematical subjects such as complex analysis, functional analysis, matrix theory, Fourier analysis and numerical analysis. One of the recent Fields medals was awarded to Stas Smirnov for his work on random conformal mappings and percolation. Faculty members in our department have taught some of these new developments in the context of topics courses and currently two candidates for PhD, Santosh Ghimire and Xiaojing Zhang, are writing their thesis in probability-related questions.

We feel, as a department, that our graduate students would benefit from a more comprehensive training in the field of probability. The first semester, Math 843, is dedicated to the rigorous mathematical foundations and the development of Brownian motion (the building block for many of the subsequent developments). The second semester, Math 844, is more open-ended but concentrates on the many applications that have recently been forged in various fields of analysis, geometry and group theory, some of which even touch base with statistical mechanics.

We contemplate that this two-semester sequence, although focused toward graduate students in Mathematics, could appeal to other graduate students at the University, such as Statistics, Electrical and Computing Engineering, Physics and others.

IMPACT: Statistics has been informed and has approved.

EFFECTIVE DATE: Fall 2012

ADD: MATH 844 – Advanced Probability II. (3) II. Topics may include stochastic processes, random matrix theory, free probability, random fractals and random analytic maps. Pr.: MATH 843.

RATIONALE: The mathematical foundations of probability theory were laid down during the twentieth century and established an entirely new branch of mathematics with many applications to the physical sciences and beyond. In the last two decades, probability has found applications to traditional mathematical subjects such as complex analysis, functional analysis, matrix theory, Fourier analysis and numerical analysis. One of the recent Fields medals was awarded to Stas Smirnov for his work on random conformal mappings and percolation. Faculty members in our department have taught some of these new developments in the context of topics courses and currently two candidates for PhD, Santosh Ghimire and Xiaojing Zhang, are writing their thesis in probability-related questions.

We feel, as a department, that our graduate students would benefit from a more comprehensive training in the field of probability. The first semester, Math 843, is dedicated to the rigorous mathematical foundations and the development of Brownian motion (the building block for many of the subsequent developments). The second semester, Math 844, is more open-ended but concentrates on the many applications that have recently been forged in various fields of analysis, geometry and group theory, some of which even touch base with statistical mechanics.

We contemplate that this two-semester sequence, although focused toward graduate students in Mathematics, could appeal to other graduate students at the University, such as Statistics, Electrical and Computing Engineering, Physics and others.

IMPACT: Statistics has been informed and has approved.

EFFECTIVE DATE: Fall 2012

Music

ADD: MUSIC 605 – Lower String Pedagogy. (2) S. Study of low string technique and related teaching methods. Intended for teachers of string, concert/jazz bands and vocal music if they use a bass with accompaniment combos for pit orchestras or swing choirs.

RATIONALE: The graduate program of the Department of Music has a course focused for upper string pedagogy but needs a course for the summer program to complete the content.

IMPACT: None

EFFECTIVE DATE: Summer 2012

Statistics

ADD: STAT 843 – Statistical Inference. (3) II. Distributions (commonly used univariate and multivariate distributions, including exponential families of distributions and properties), order statistics and distributional properties, (asymptotic) unbiased estimation and the information inequality, likelihood inference for parametric statistical models (including the multi-parameter case, regular and non-regular cases), confidence sets, functional parameters and statistical functional, density estimation and nonparametric function estimation, permutation methods. Pr.: STAT 842; MATH 634 or equivalent, or concurrent enrollment in MATH 634.

RATIONALE: The proposed course STAT 843 reflects the desirability for Statistics PhD students to encounter certain material that is in the current STAT 981 course at an earlier point in the curriculum, suitable for an 800 level offering. The course description reflects such, and includes additional modern topics in statistical inference, also suitable for an 800 level offering. Pre/co-requisites reflect the changes to accommodate this curriculum change. The remaining content of the current STAT 981 course will be covered as STAT 941, along with additional modern topics suitable for a 900 level offering.

IMPACT: None

EFFECTIVE DATE: Fall 2012

ADD: STAT 905 – High-Dimensional Data and Statistical Learning. (3) I, Even years. Statistical methods for the analysis of large scale data. Data mining, supervised and unsupervised statistical learning techniques for prediction and pattern recognition. Methods for model selection, multiple testing control, and estimation in high-dimensions. Applications in various fields, including the sciences and engineering using computer software. Pr.: STAT 713 and 771, plus one introductory course in statistical computing (e.g. STAT 726 or equivalent background).

RATIONALE: Data of unprecedented scales and complexities are now routinely generated from diverse fields as science and technology advance (e.g. genomics). The curses and blessings of dimensionality have been reshaping statistical thinking and methodological development. Accordingly, extensive research beyond classical statistical inference techniques has been conducted to address the challenges associated with high-dimensionality. The department has previously offered coverage of such materials as STAT 950 (Advanced Studies in Probability and Statistics). Expertise of the current faculty, coupled with graduate student demand, would allow research and instructional enhancements consistent with the discipline, and thus make such course a significant addition to the curriculum.

IMPACT: None

EFFECTIVE DATE: Fall 2012

ADD: STAT 907 – Bayesian Statistical Inference. (3) I, odd years. Principles of Bayesian inference. Methods of Bayesian data analysis with applications in the sciences. Hierarchical and non-hierarchical models, including linear and generalized linear models. Model checking, Model selection, Model comparison. Bayesian computation including Markov Chain Monte Carlo algorithms. Applications in the sciences utilizing computer software. Pr.: STAT 720 and 771, plus one introductory course in statistical computing (e.g. STAT 725 or 726 or equivalent background).

RATIONALE: The Bayesian approach to statistical inference and statistical computing is of mainstream importance and utility for data analysis. Nowadays, this approach represents a functional mode of statistical thought, along with the frequentist (Fisherian) approach based on likelihood methods. The department has previously offered coverage of such material as STAT 950 (Advanced Studies in Probability and Statistics). Expertise of the current faculty, coupled with graduate student demand, would allow research and instructional enhancements consistent with the discipline, and thus make such course a significant addition to the curriculum.

IMPACT: None

EFFECTIVE DATE: Fall 2012

College of Veterinary Medicine

Department of Clinical Sciences

ADD: CS 793. Surgical Skills. (1) II. Manual surgical skills will be taught using surgical models and cadaver tissues. Students will be taught the following skills and techniques: instrument handling, speed and efficiency, hand ties, ligature under tension, suture patterns, closure under tension, anastomosis and enterotomy technique and excision of circular lesions. Pr.: CS 729, Surgery I and 3rd year standing in the College of Veterinary Medicine

RATIONALE: CS 729 does not provide enough time to develop the hands on skills needed by any veterinarian that is performing surgery. The purpose of this new course is to teach only manual surgical skills in a small group setting to make students more proficient.

EFFECTIVE DATE: Spring 2013

ADD: CS 882. Advanced Small Animal Endocrinology. (2) II. Advanced topics in small animal endocrinology. Emphasis on comparative aspects of endocrine gland disease and its clinical manifestations in dogs and cats. Primary literature, review articles, and advanced texts will be the principle sources of information. Pr.: DVM degree.

RATIONALE: This course will offer veterinarians in the graduate curriculum an opportunity to pursue the advanced study of relevant topics in small animal endocrinology. Graduate veterinarians will explore select topics in canine and feline endocrinology through a comparative medicine approach that relies on in-depth review of basic and clinical research. The course expands the number of advanced medicine courses offered to veterinarians enrolled in the graduate curriculum. The current graduate catalog does not offer a similar course.

EFFECTIVE DATE: Spring 2013

Department of Anatomy & Physiology

ADD: AP 896. Introduction to Responsible Conduct of Biomedical Research (2) I. This course will focus on providing graduate/professional students an introduction to the regulations, practices, ethical considerations, and professional interactions that define responsible conduct of biomedical research. Investigator responsibilities associated with initiating and establishing a research program, conducting experimental studies, analyzing and reporting data, publishing in peer-reviewed journals, considerations for submitting grant applications, and understanding compliance issues and regulations will be emphasized. Students will learn through reading journal articles and discussion of pertinent topics to identify and consider issues that are germane to the biomedical research environment.

RATIONALE: Funding agencies have enhanced the scrutiny of graduate student training programs. Responsible conduct of research is an important area of training for graduate students and it is imperative that students are able to demonstrate to funding agencies that they have received focused and direct training in this area of their graduate program. Therefore, we would like to include this class in the curriculum so it will reflect on the students' transcripts

EFFECTIVE DATE: Fall 2012

COURSE CHANGES:

College of Arts and Sciences

Geography

FROM: ~~GEOG 705~~ – Remote sensing of the Environment. (3) I, II. Remote sensing and its application to earth study, especially environmental problems and land use. Course employs both readings and the use of imagery. Note: Two hours lecture, two hours lab. Pr.: One course in physical science and one in biological science. Cross-listed with AGRON 706.

TO: GEOG 605 - Remote sensing of the Environment. (3) I, II. Remote sensing and its application to earth study, especially environmental problems and land use. Course employs both readings and the use of imagery. Note: Two hours lecture, two hours lab. Pr.: One course in physical science and one in biological science. Cross-listed with AGRON 706.

RATIONALE: Change in the course number from 705 to 605 more accurately reflects the level at which the class is currently being taught.

IMPACT: College of Agriculture/Agronomy (AGRON 706)

EFFECTIVE DATE: Fall 2012

FROM: GEOG 740 – Fluvial Geomorphology. (3) I. This course is a basic introduction to the field of Fluvial Geomorphology, the study of the forms and processes found within streams and rivers. Topics will include: Review of watershed hydrology and hill slope processes, mechanics of open channel flow, sediment entrainment and transport, channel geometry, longitudinal profile and gradient, effective flows/formative events, channel patters, pool- and river management and restoration. **Note:** The course meets for three hours of lecture per week with one required weekend field trip. Pr.: GEOG 221 or permission of instructor.

TO: GEOG 740 – Fluvial Geomorphology. (3) I. This course is a basic introduction to the field of Fluvial Geomorphology, the study of the forms and processes found within streams and rivers. Topics will include: Review of watershed hydrology and hill slope processes, mechanics of open channel flow, sediment entrainment and transport, channel geometry, longitudinal profile and gradient, effective flows/formative events, channel patters, pool- and river management and restoration. **Note:** The course meets for three hours of lecture per week with one required weekend field trip. Pr.: GEOG 221 or permission of instructor.

K-State 8: Natural and Physical Sciences

RATIONALE: The course takes a natural and physical science approach to rivers by examining the physical processes whereby rivers shape the surface of the earth. Reading and lecture materials are scientific in nature. And include the physics of fluid flow and sediment movement through rivers. As a small seminar class, the course involves active learning on the part of students over topics dealing with the Natural and Physical Sciences. For

that reason, we would like to see the course tagged in K-State 8 in the "Natural and Physical Sciences".

IMPACT: None

EFFECTIVE DATE: Fall 2012

FROM: ~~MC 605~~ – Supervision of School Publications. (3) S. A methods course for those planning to teach secondary or community college journalism courses and advise high school or community college publications.

TO: MC 505 – Supervision of School Publications. (3) S. A methods course for those planning to teach secondary or community college journalism courses and advise high school or community college publications.

RATIONALE: To lower the course level from 600-level to 500-level, which will allow non-graduate faculty to teach it without obtaining an exception from the Graduate School each year. The history of this course in the past five or more years is that no one has taken it for graduate credit.

IMPACT: The College of Education will be impacted because the course is taken by secondary education students seeking certification in journalism.

EFFECTIVE DATE: Summer 2012

FROM: ~~STAT 980 – Probability and Asymptotics. (3) I. Probability theory, including independence, conditioning, modes of stochastic convergence, laws of large numbers, central limit theory, martingales. Statistical applications to asymptotic approximations and efficiency for inference in parametric and nonparametric models based on likelihood methods and statistical functional. Pr.: Math through at least two semesters of advanced calculus and STAT 771.~~

TO: STAT 842 – Probability for Statistical Inference. (3) I. Probability spaces and random elements, distributions, generating and characteristic functions, conditional expectation, convergence modes and stochastic orders, continuous mapping theorems, central limit theory and accuracy, laws of large numbers, asymptotic expansions for approximating functions of random variables and distributions. Pr.: STAT 770 &771, or equivalent; MATH 633 or equivalent, or concurrent enrollment in MATH 633.

RATIONALE: The change in course number (980 to 842) reflects the desirability for Statistics PhD students to encounter material similar to that in the current 980 course at an earlier point in the curriculum. The revised course description and pre/co-requisites reflect the changes to accommodate this curriculum change, suitable for an 800 level course offering.

IMPACT: None

EFFECTIVE DATE: Fall 2012

Women's Studies

FROM: WOMST 610 – ~~Seminar in Women's Studies.~~ (3) I. ~~Rec. This course surveys interdisciplinary, feminist methods of research and contemporary applications of this scholarship.~~

TO: WOMST 610 – Capstone Seminar in Women's Studies. (3) I. Rec. An advanced seminar for in-depth investigation of a specific topic. Students will conduct independent research and produce a substantial project or paper. Pr.:WOMST 510.

RATIONALE: As part of our overall curriculum revision, this course will now serve as the capstone for our curriculum. The general survey by the previous description is more applicable now to other courses; this course will be for undergraduates to undertake serious research as the culmination of their major. The change in title and description makes this clear in the catalog.

IMPACT: None

EFFECTIVE DATE: Fall 2012

CURRICULUM CHANGE
College of Education
Online Course Design (Graduate Certificate Program)

FROM:	**TO:**
~~Digital Teaching and Learning~~ Graduate Certificate Contact: Rosemary Talab E-mail: talab@ksu.edu Home Page: http://www.dce.k-state.edu/education/curriculum-instruction/certificate This online Curriculum and Instruction graduate program offers a ~~15~~-hour ~~graduate certificate (not licensure) in digital teaching and learning~~. The program provides graduates with a ~~broad overview of Educational Technology research, theory, skills, strategies, methods, and models for designing and assessing active and effective student learning experiences. Open to licensed teachers, an educator must have a current teaching certificate, classroom teaching experience, and a commitment to enhance student learning through technology. Graduates have taken leadership roles in technology integration and positions in technology-rich schools. Others have become technology lead teachers, technology directors, and curriculum technologies, or have gone on to~~	Online Course Design Graduate Certificate Contact: Rosemary Talab E-mail: talab@ksu.edu Home Page: http://www.dce.k-state.edu/education/curriculum-instruction/certificate This online Curriculum and Instruction graduate program offers a 14-hour KSU Graduate School Certificate in Online Course Design. The program provides graduates with instructional design models, research, theory, instructional strategies and technologies for the development of online learning course design, including workshops, webinars, and other technology-enhanced instruction. Graduates will model best practices in the redesign of existing instruction, creation and management of instructional development projects and project timelines.

~~receive their masters and doctorates in this field~~. **Certificate Requirements:** EDCI 718 - Learning Technologies Credits: (3) ~~EDCI 750 - Emerging Technologies in Education (3)~~ ~~EDCI 786 Topics in Curriculum and Instruction - Wireless Connections (3)~~ ~~EDCI 786 Topics in Curriculum and Instruction - Digital Video (3)~~ EDCI 858 - ~~Digital Teaching and Learning~~ Project/ePortfolio (2) ~~EDCI 887 - Proseminar I: Educational Computing, Design, and Distance Education (3)~~	**Prerequisite Course** EDCI 718 - Learning Technologies (3) or similar graduate level introductory technology course **Required Courses (8 hrs. total)** EDCI 763 Principles of Instructional Design (3) EDCI 863 Online Course Design (3) EDCI 858 Online Course Design Project/e-Portfolio (2) **Elective Courses (6 hrs. total)** EDCI 786 Topics in Curriculum and Instruction – Game-Based Learning (3) EDCI 786 Topics in Curriculum and Instruction - Virtual Learning/Immersive Spaces (3) EDCI 786 Topics in Curriculum and Instruction – Design for Diverse Populations (3)

IMPACT: None.

RATIONALE: This is a change of the title of the Graduate Certificate Program and its requirements. The current title and two of the courses are being updated in order to reflect increased demand for the design of online learning courses and curricula, which involve the use of instructional design models and newer technologies. This program curriculum change will enable KSU to be one of the few institutions, nationwide, to offer an online Certificate in Online Course Design. The number of required hours will change from 15 to14 hours. EDCI 858 Digital Teaching and Learning Project/e-Portfolio will be modified to EDCI 858 Online Course Design Project/e-Portfolio. EDCI 863 Interactive System Design will be modified to EDCI 863 Online Course Design.

EFFECTIVE DATE: Fall 2012