Supplemental Information
Course and Curriculum items
FS Academic Affairs Committee Review
November 18, 2014 Meeting

College of Agriculture (11-6-14)

Non-expedited Course Changes (599 and below)

Agricultural Communications and Journalism

FROM: AGCOM 550. Internship in Agricultural Communications. Ind (1-3). (Fall, Spring, Summer) The intern works in a professional capacity in areas such as print journalism, electronic media, advertising, photography, and public relations. Student is supervised by a professional and a faculty member. One hour of credit for each four weeks of supervised work. Internship report and presentation required.

TO: AGCOM 550. Internship in Agricultural Communications. Ind (1-3). (Fall, Spring, Summer) The intern works in a professional capacity in areas such as print journalism, electronic media, advertising, photography, and public relations. Student is supervised by a professional and a faculty member. One hour of credit for each four weeks of supervised work. Internship report and presentation required. K-State 8: Ethical Reasoning and Responsibility

K-State 8 RATIONALE: Courses and experiences in ethical reasoning and responsibility should assist students in learning how to think through ethical dilemmas and make sound decisions when facing real-life situations. Student internships are completed at an agricultural or environmental communications employer with the guidance and mentoring of a communications professional. These work experiences place students in situations that require applying ethical standards on a daily basis. The work environment and office group dynamics introduce students to a variety of ethical perspectives and teach them multiple ways for resolving ethical dilemmas.

IMPACT: None.

EFFECTIVE DATE: Summer 2015

Horticulture, Forestry and Recreational Resources

Park Management and Conservation

ADD: PMC 116. Certified Interpretive Guide (CIG) Certification. (1). Spring. Students will participate in the professional certification course offered by the National Association for Interpretation (NAI). Successful completion of this course will certify them as NAI Certified Interpretive Guides. This certification combines both the theoretical foundations of the profession with practical skills in delivering quality interpretive programming to visitors.

RATIONALE: The new course will contribute to meeting new program accreditation guidelines.

IMPACT: No impact on other departments.

EFFECTIVE DATE: Fall 2015

ADD: PMC 441. Topics in Park Management and Conservation (0-18) Fall, Spring, Summer. Discussion of topics and activities of importance in park management and conservation. Instructor permission required.

RATIONALE: The prefix change is to align with the curriculum name and course number to reflect that the course is taken late in student academic careers. One use of the topics course is for students taking the National Park Service Certification, Law Enforcement Ranger Academy, and the Law Enforcement Police Officer Training academies. Total student enrollment in these academies is typically small at any one time so the use of the problems course for these academies alleviates the burden on the department for the continuous justification of low enrollment in a course. The change of credit hours from 1-3 to 0-18 is needed to provide flexibility for other topics and to recognize the increased length of the academies by three more weeks. Some academic institutions are offering 24 hours of credit for the same academy programs. Also, 9 hrs credit for students not taking the optional 3hr (POST) Police Officers Standard Training, has been problematic relative to financial aid and full time student status.

IMPACT: No impact to other departments.

EFFECTIVE DATE: Spring 2015

Undergraduate Curriculum Changes

Animal Sciences and Industry

B.S. in Agriculture: Animal Sciences and Industry: Communications & Marketing Option

FROM:

GENERAL COURSES

ASI	101	Animal Science Orientation -OR-	1
GENAG	200	College Careers	0
BIOL	198	Principles of Biology	4
CHM	110	General Chemistry	3
CHM	111	General Chemistry Lab	1
COMM	105	Public Speaking IA	2
ECON	110	Prin Macro Economics	3
ENGL	100	Expository Writing I	3
ENGL	200	Expository Writing II	3
MATH	100	College Algebra	3

AGRICULTURE
(4 courses - 2 other AG Depts. other than AGCOM min. ~~11~~ hours)
(1 hour courses cannot be applied)

AGEC – Any course in AGEC
ASI – ASI 660
ATM – Any course in ATM
AGRON – Any course in AGRON
ENTOM – Any course in ENTOM
FDSCI – Any course in FDSCI
GRSC – Any course in GRSC
HORT – Any course in HORT
~~FOR – Any course in FOR~~
~~RRES – RRES 210 to 490, 521 to 705~~
PLPTH – Any course in PLPTH
GENAG – GENAG 450, 505

HUMANITIES/SOCIAL SCIENCE
(Minimum 9 hours)
(Must be taken from more than one department)
(Maximum 3 hours in performance courses)

AMETH – AMETH 160 to 501
ANTH – Any course
ARCH – ARCH 301
ART – Any course
DANCE – DANCE 120 to 200, 225 to 420, 495 to 690
DEN – DEN 325, 450
ECON - ECON 120-799
ENGL – ENGL 150, 210 to 299, 310, 320 to 399, 420 to 499, 536 to 599, 605 to 660, 670 to 695, 700 to 760, 790 to 799
ENVD – ENVD 250, 251
GEOG – GEOG 100, 200, 201, 300 to 799
HIST – Any course
FSHS – Any course
MUSIC – Any course
Modern Language – Any course in ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN,

TO:

GENERAL COURSES

ASI	101	Animal Science Orientation -OR-	1
GENAG	200	College Careers	0
BIOL	198	Principles of Biology	4
CHM	110	General Chemistry	3
CHM	111	General Chemistry Lab	1
COMM	105	Public Speaking IA	2
ECON	110	Prin Macro Economics	3
ENGL	100	Expository Writing I	3
ENGL	200	Expository Writing II	3
MATH	100	College Algebra	3

AGRICULTURE
(<u>2</u> courses - 2 other AG Depts. other than AGCOM min. <u>5</u> hours)
(1 hour courses cannot be applied)

AGEC – Any course in AGEC
ASI – ASI 660
ATM – Any course in ATM
AGRON – Any course in AGRON
ENTOM – Any course in ENTOM
FDSCI – Any course in FDSCI
GRSC – Any course in GRSC
HORT – Any course in HORT
<u>PMC – Any course in PMC</u>
RRES – RRES 210 to 490, 521 to 705
PLPTH – Any course in PLPTH
GENAG – GENAG 450, 505

HUMANITIES/SOCIAL SCIENCE
(Minimum 9 hours)
(Must be taken from more than one department)
(Maximum 3 hours in performance courses)

AMETH – AMETH 160 to 501
ANTH – Any course
ARCH – ARCH 301
ART – Any course
DANCE – DANCE 120 to 200, 225 to 420, 495 to 690
DEN – DEN 325, 450
ECON - ECON 120-799
ENGL – ENGL 150, 210 to 299, 310, 320 to 399, 420 to 499, 536 to 599, 605 to 660, 670 to 695, 700 to 760, 790 to 799
ENVD – ENVD 250, 251
GEOG – GEOG 100, 200, 201, 300 to 799
HIST – Any course
FSHS – Any course
MUSIC – Any course
Modern Language – Any course in ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN,

SPAN, URDU
PHILO – Any course
POLSC – Any course
PSYCH – Any course
SOCIO – Any course
SOCWK – Any course
DANCE – Any course
THTRE – Any course
WOMST – Any course

MATH/STATISTICS/COMPUTERS
(Minimum 3 hours)

ASI – ASI 290
CIS – CIS 101, 102, 103, 104
MATH – MATH 150, 205, 210, 211, 220, 221, 222
STAT – STAT 320, 325, 330, 340, 350

BUSINESS ~~& ECONOMICS~~

~~ACCTG 231 Acctg for Bus Ops 3~~
~~(plus 1 courses, min. 3 hours)~~
~~AGEC – AGEC 202 to 420, 445 to 799~~
~~ACCTG – ACCTG 241 to 799~~
~~ECON – ECON 500 to 799~~
~~ENTRP – Any course~~
~~FINAN – Any course~~
~~FSHS – FSHS 105 & 405~~
~~MANGT – Any course~~
MKTG – Any course

COMMUNICATIONS

MC	110	Mass Comm in Society	3
MC	200	News & Feature Writing	3
~~MC~~	~~241~~	~~Editing~~	~~3~~
~~MC~~	~~303~~	~~Adv News & Feature Writing~~	~~3~~
~~MC~~	~~341~~	~~News Design~~	~~3~~
MC	466	Law of Mass Comm	3

(Select 1 course)

~~MC~~	~~111~~	~~Journalism Free Society~~	~~3~~
MC	112	Web Comm in Society	3
MC	120	Principles of Advertising	3
MC	180	Fund of Public Relations	3

~~Plus 3 hours – Any MC course 400 level and above (course must have a prerequisite)~~
~~3~~
~~Plus 3 hours – Any course in AGCOM, COMM or MC~~
~~3~~

SPAN, URDU
PHILO – Any course
POLSC – Any course
PSYCH – Any course
SOCIO – Any course
SOCWK – Any course
DANCE – Any course
THTRE – Any course
WOMST – Any course

MATH/STATISTICS/COMPUTERS
(Minimum 3 hours)

ASI – ASI 290
CIS – CIS 101, 102, 103, 104
MATH – MATH 150, 205, 210, 211, 220, 221, 222
STAT – STAT 320, 325, 330, 340, 350

MARKETING & BUSINESS

MKTG	400	Intro to Marketing	3

(Select 3 Courses)

ACCTG	231	Acctg for Bus Ops	3
ACCTG	241	Acctg for Invest & Finance	3
AGEC	515	Food & Agribus Marketing	3

MKTG – Any Course

COMMUNICATIONS

AGCOM	210	Layout & Design	3
MC	110	Mass Comm in Society	3
MC	466	Law of Mass Comm	3

(Select 1 course)

MC	112	Web Comm in Society	3
MC	120	Principles of Advertising	3
MC	180	Fund of Public Relations	3

(Select 1 course)

MC	200	News & Feature Writing	3
MC	211	Writing Electronic Media	3

(Select 1 course)

MC	221	Advert Strategy & Writing	3
MC	280	Public Relations Writing	3
MC	303	Adv News & Feat Writ	3

(Select 9 hours)

Any MC course >200 with at least one course 400 level or above (course must have a pre-requisite).

(Select 3 hours)

AGCOM	310	Comm in Ag Industry	3
AGCOM	410	Ag Student Magazine	5
AGCOM	435	Documentary Prod	3
AGCOM	590	New Media Technol	3
AGCOM	610	Crisis Communication	3
AGCOM	712	Environmental Comm	3
COMM	311	Business & Prof Speaking	3
COMM	323	Nonverbal Comm	3
COMM	325	Argument & Debate	3
COMM	440	Comm & Event Planning	3
COMM	526	Persuasion	3
ENGL	417	Written Comm Wkpl	3

		ANIMAL SCIENCE	
ASI	102	Prin Animal Science	3
ASI	318	Fund. of Nutrition	3
ASI	400	Farm Animal Reproduction	3
ASI	500	Genetics	3
ASI	533	Anatomy & Physiology	4
ASI	580	ASI Career Prep	1
		(Select 1 course)	
ASI	105	Animal Sciences & Ind Lab	1
ASI	106	Dairy/Poultry Lab	1
ASI	107	Companion Anml/Horse Lab	1
		(Select 1 course)	
ASI	350	Meat Science	3
ASI	361	Meat Animal Processing	2
ASI	405	Fund Milk Processing	3
ASI	640	Poultry Product Tech	3
FDSCI	305	Fund of Food Processing	3
		(Select 2 courses)	
ASI	515	Beef Science	3
ASI	520	Companion/Lab Anml Mngt	3
ASI	521	Horse Science	3
ASI	524	Sheep/Meat Goat Science	3
ASI	535	Swine Science	3
ASI	621	Dairy Cattle Management	3
ASI	645	Poultry Management	3
		(Minimum 9 hours)	
ASI	315	Livestock & Meat Eval	3
ASI	320	Principles of Feeding	3
ASI	401	Farm Animal Repro Lab	1
ASI	504	Equine Repro Mngt	3
ASI	510	Animal Breeding Pr.	3
ASI	512	Bovine Repro Tech	2
ASI	540	Principles of Animal Disease	3
ASI	561	Undergrad Research in ASI	0-3
ASI	595	Contemp Issues ASI	3
ASI	601	Physiology of Lactation	3
ASI	602	Equine Breeding/Genetics	2
ASI	608	Dairy Foods Process & Technol	3
ASI	610	Processed Meat Ops	2
ASI	620	Beef Systems Management	2
ASI	650	Id Data Management	2
ASI	655	Behavior of Domestic Animals	3
ASI	658	Animal Growth & Development	3
ASI	662	Special Topics Animal Science	0-6
ASI	675-679	Non-Ruminant Modules	1-5
ASI	680-685	Ruminant Modules	1-6
ASI	695	Equine Exercise Physiology	3
ASI	710	Phys Repro Farm Animal	3
ASI	777	Meat Technology	3
CS	610	Feedlot Health Systems	2
CS	611	Cow/Calf Health Systems	2
Total hours required for graduation (126 credit hours)			

ENGL	510	Intro to Prof Writing	3
ENGL	516	Written Comm Sciences	3
		ANIMAL SCIENCE	
ASI	102	Prin Animal Science	3
ASI	318	Fund. of Nutrition	3
ASI	400	Farm Animal Reproduction	3
ASI	500	Genetics	3
ASI	533	Anatomy & Physiology	4
ASI	580	ASI Career Prep	1
		(Select 1 course)	
ASI	105	Animal Sciences & Ind Lab	1
ASI	106	Dairy/Poultry Lab	1
ASI	107	Companion Anml/Horse Lab	1
		(Select 1 course)	
ASI	350	Meat Science	3
ASI	361	Meat Animal Processing	2
ASI	405	Fund Milk Processing	3
ASI	640	Poultry Product Tech	3
FDSCI	305	Fund of Food Processing	3
		(Select 2 courses)	
ASI	515	Beef Science	3
ASI	520	Companion/Lab Anml Mngt	3
ASI	521	Horse Science	3
ASI	524	Sheep/Meat Goat Science	3
ASI	535	Swine Science	3
ASI	621	Dairy Cattle Management	3
ASI	645	Poultry Management	3
		(Minimum 9 hours)	
ASI	315	Livestock & Meat Eval	3
ASI	320	Principles of Feeding	3
ASI	401	Farm Animal Repro Lab	1
ASI	504	Equine Repro Mngt	3
ASI	510	Animal Breeding Pr.	3
ASI	512	Bovine Repro Tech	2
ASI	540	Principles of Animal Disease	3
ASI	561	Undergrad Research in ASI	0-3
ASI	595	Contemp Issues ASI	3
ASI	601	Physiology of Lactation	3
ASI	602	Equine Breeding/Genetics	2
ASI	608	Dairy Foods Process & Technol	3
ASI	610	Processed Meat Ops	2
ASI	620	Beef Systems Management	2
ASI	650	Id Data Management	2
ASI	655	Behavior of Domestic Animals	3
ASI	658	Animal Growth & Development	3
ASI	662	Special Topics Animal Science	0-6
ASI	675-679	Non-Ruminant Modules	1-5
ASI	680-685	Ruminant Modules	1-6
ASI	695	Equine Exercise Physiology	3
ASI	710	Phys Repro Farm Animal	3
ASI	777	Meat Technology	3
CS	610	Feedlot Health Systems	2
CS	611	Cow/Calf Health Systems	2
Total hours required for graduation (126 credit hours)			

RATIONALE: We propose to rename this option “Communications and Marketing” and modify the curriculum choices and requirements to more appropriately reflect the career path options and preparedness for those careers. The addition of the term “marketing” to the title as well as additional Marketing courses added to the curriculum choices reflects the knowledge, skills, and insight gained through coursework in this option as related to oral and written communication about product description, promotion, advertisement, and distribution, for example. The modified option will be more flexible for students in preparing them for career paths with animal health or animal nutrition companies and (or) animal agriculture organizations who desire students with a technical background and understanding of animal agriculture industries and animal management with ability to positively influence customer sales and service and product recognition in the marketplace.

The changes in the Ag Requirements block better aligns this block with other options in the major and reduces problems that have been experienced finding hours to fill that block.

The Communications block had some concerns for our department. There was one course that was no longer being taught, there were no courses that directly taught students Adobe Creative Suite (important software programs for students seeking jobs in this area), and the block focused on journalism, with little room to take a number of courses in other avenues within Journalism and Mass Communications. On advice from the Department of Journalism and Mass Communications, we tried to find a way to make the option more flexible to students, allowing them to choose their own avenue of study (i.e. advertising, public relations, journalism, etc.). We’ve maintained the incorporation of the minor within the major, added flexibility within the MC courses and added a block to encourage students to take an additional communications course in either AGCOM, COMM or ENGL.

IMPACT: The Animal Sciences & Industry Department has contacted the following departments: Marketing, Communications and Agricultural Education, and Journalism and Mass Communications.

EFFECTIVE DATE: FALL 2015

Food Science and Industry

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

FROM:	TO:
COMMUNICATIONS (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) **Additional Course in Communications (2-3 credit hours)** Courses used to fulfill the 2-3 credit hours of communications electives cannot be used for professional elective. ~~Any foreign language~~ ASI 495 – Advanced Meat Evaluation (2) AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 417 – Written Comm for the Workplace (3) ENGL 510 – Intro to Professional Writing (3) ENGL 516 - Written Comm for the Sciences (3) HMD 443 – Food Writing (3) ~~MC 110 - Mass Communication in Society (3)~~ ~~MC 111 - Journalism in a Free Society (3)~~ ~~MC 112 - Web Communications in Society (3)~~ ~~MC 120 - Principles of Advertising (3)~~ ~~MC 180 - Fundamentals of Public Relations (3)~~ MKTG 542 - Professional Selling and Sales Management (3) ~~SOCWK 612 - Fund Comm for Ag & Food Sci (3)~~	**COMMUNICATIONS (10-12 credit hours)** ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) **One additional communications course (2–3)** AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) **ASI 495** Advanced Meat Evaluation (2) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 417 – Written Comm for the Workplace (3) ENGL 510 – Intro to Professional Writing (3) ENGL 516 - Written Communication for the Sciences (3) HMD 643 – Food Writing (3) MKTG 542 – Professional Selling and Sales (3) Modern Language – Any course in ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN, SPAN, URDU
SOCIAL SCIENCES & HUMANITIES (12 credit hours) ECON 110 - Principles of Macroeconomics (3) ~~**Humanities/social sciences courses**~~ **(Select 9 hours)** Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course	**SOCIAL SCIENCES & HUMANITIES (12 credit hours)** ECON 110 - Principles of Macroeconomics (3) **Select 9 hours** Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course

Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women's Studies (3)	Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women's Studies (3)
BIOLOGICAL SCIENCES (8 credit hours) BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)	**QUANTITATIVE STUDIES <u>(6 credit hours)</u>** MATH 205 - General Calculus and Linear Algebra (3) STAT 350 - Business and Economic Statistics I (3)
QUANTITATIVE STUDIES (~~9 credit hours~~) ~~MATH 100 - College Algebra (3)~~ MATH 205 - General Calculus and Linear Algebra (3) STAT 350 - Business and Economic Statistics I (3)	**BIOLOGICAL SCIENCES (8 credit hours)** BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4)
PHYSICAL SCIENCES (13 credit hours) BIOCH 265 - Introductory Organic and Biochemistry (5) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4)	**PHYSICAL SCIENCES (13 credit hours)** BIOCH 265 - Introductory Organic and Biochemistry (5) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4)
CORE FOOD SCIENCE COURSES (~~22-24 credit hours~~) Must have 2.0 GPA average. FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 600 – Food Microbiology (2) FDSCI 601 – Food Microbiology Lab (2) FDSCI 690 - Principles of HACCP (2) HN 132 - Basic Nutrition (3) **Select One** FDSCI 695 - Quality Assurance of Food Products (3) or FDSCI 740 - Research and Development of Food Products (4) **Select One** FDSCI 501 - Food Chemistry (3) or HN 413 - Science of Food (4)	**FOOD SCIENCE CORE COURSES (<u>22-25 credit hours</u>)** Must have 2.0 GPA average. <u>FDSCI 101- Food Sci and Ind Orientation (1)</u> <u>or</u> <u>GENAG 200 – College Careers (0)</u> FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 600 – Food Microbiology (2) FDSCI 601 – Food Microbiology Lab (2) FDSCI 690 - Principles of HACCP (2) **<u>Select One</u>** <u>ASI 318 - Fundamentals of Nutrition (3)</u> <u>HN 132 - Basic Nutrition (3)</u> **Select One** FDSCI 695 - Quality Assurance of Food Products (3) FDSCI 740 - Research and Development of Food Products (4) **Select One** FDSCI 501 - Food Chemistry (3) HN 413 - Science of Food (4)
PROCESSING ELECTIVES (~~Minimum~~ 8 hours) Must have 8 hours of processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables. ~~Other professional electives can be substituted as appropriate. Courses used to fulfill the 8 credit hours of processing electives cannot be used for professional elective.~~ **Processing Electives** ASI 310 - Poultry and Poultry Product Evaluation (2) ASI 350 - Meat Science (3) ASI 361 - Meat Animal Processing (2) ASI 370 - Principles of Meat Evaluation (2) ASI 405 - Fundamentals of Milk Processing (3) ASI 495 - Advanced Meat Evaluation (2) ASI 608 - Dairy Foods Processing & Technology (3) ASI 610 - Processed Meat Operations (2) ASI 640 - Poultry Products Technology (3)	**PROCESSING ELECTIVES (8 hours)** Must have processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables. ASI 310 - Poultry and Poultry Product Evaluation (2) ASI 350 - Meat Science (3) ASI 361 - Meat Animal Processing (2) ASI 370 - Principles of Meat Evaluation (2) ASI 405 - Fundamentals of Milk Processing (3) ASI 495 - Advanced Meat Evaluation (2) ASI 608 - Dairy Foods Processing & Technology (3) ASI 610 - Processed Meat Operations (2) ASI 640 - Poultry Products Technology (3) ASI 671 - Meat Selection and Utilization (2) ASI 777 - Meat Technology (3) FDSCI 660 - International Study Experience in Food Science (0-6)

ASI 671 - Meat Selection and Utilization (2) ASI 777 - Meat Technology (3) FDSCI 660 - International Study Experience in Food Science (0-6) GRSC 101 - Introduction to Grain Science and Industry (3) GRSC 150 - Principles of Milling (2) GRSC 151 - Principles of Milling Laboratory (1) GRSC 405 - Grain Analysis Techniques (2) GRSC 602 - Cereal Science (3) GRSC 625 - Flour and Dough Testing (3) GRSC 635 - Baking Science I (2) GRSC 636 - Baking Science I Laboratory (2) GRSC 637 - Baking Science II (3) GRSC 638 - Baking Science II Laboratory (1) HORT 325 – Introduction to Organic Farming (2)	GRSC 101 - Introduction to Grain Science and Industry (3) GRSC 150 - Principles of Milling (2) GRSC 151 - Principles of Milling Laboratory (1) GRSC 405 - Grain Analysis Techniques (2) GRSC 602 - Cereal Science (3) GRSC 625 - Flour and Dough Testing (3) GRSC 635 - Baking Science I (2) GRSC 636 - Baking Science I Laboratory (2) GRSC 637 - Baking Science II (3) GRSC 638 - Baking Science II Laboratory (1) GRSC 645 – Pet Food Processing (3) GRSC 646 – Pet Food Processing Laboratory (1) HORT 325 – Introduction to Organic Farming (2)
BUSINESS & ECON ELECTIVES **(~~Minimum~~ 18 hours)** ~~Courses used to fulfill the 18 credit hours of business/management & economics electives cannot be used for professional elective~~. Students are strongly encouraged to complete a minor in either Business Administration, Agricultural Economics or Agricultural Business. ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) ~~AGEC 202 - Small Business Operations (3)~~ ~~AGEC 220 - Grain and Livestock Marketing 3~~ ~~AGEC 308 - Farm and Ranch Management (3)~~ ~~AGEC 315 - Contemporary Issues in Global Food and Agriculture (3)~~ ~~AGEC 318 - Food and Agribusiness Management (3)~~ ~~AGEC 410 - Agricultural Policy (3)~~ ~~AGEC 420 - Commodity Futures (3)~~ ~~AGEC 500 - Production Economics (3)~~ ~~AGEC 505 - Agricultural Market Structures (3)~~ ~~AGEC 513 - Agriculture Finance (3)~~ ~~AGEC 515 - Food and Agribusiness Marketing (3)~~ ~~AGEC 516 - Agricultural Law and Economics (3)~~ ~~AGEC 520 - Market Fundamentals and Futures/Options Trading (3)~~ ~~AGEC 570 - Food Manufacturing, Distribution and Retailing (3)~~ ~~AGEC 599 - Food and Agribusiness Management Strategies (3)~~ ~~AGEC 605 - Price Analysis and Forecasting (3)~~ ~~AGEC 623 - International Agricultural Trade (3)~~ ~~AGEC 632 - Agribusiness Logistics (3)~~ ~~AGEC 680 - Risk Management (3)~~ AGEC 120 - Agricultural Economics and Agribusiness (3) or ECON 120 - Principles of Microeconomics (3) ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) FINAN 450 - Principles of Finance (3) ~~MANGT 300 - Introduction to Total Quality Management (1)~~ ~~MANGT 366 - Information Technology for Business~~	**BUSINESS, MANAGEMENT & ECONOMICS ELECTIVES (18 credit hours)** Students are strongly encouraged to complete a minor in Business Administration, Agricultural Economics or Agricultural Business. ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) AGEC 120 – Ag Econ & Agribusiness (3) or ECON 120- Prin Micro Economics (3) AGEC-Any course 200 level or above ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) FINAN 450 - Principles of Finance (3) MANGT- Any course 300 level or above MKTG- Any course 400 level or above

~~(3)~~ ~~MANGT 390 - Business Law I - (3)~~ ~~MANGT 420 - Management Concepts (3)~~ ~~MANGT 421 - Introduction to Operations Management (3)~~ ~~MANGT 530 - Industrial and Labor Relations (3)~~ ~~MANGT 531 - Human Resources Management (3)~~ ~~MKTG 400 - Introduction to Marketing (3)~~ ~~MKTG 450 - Consumer Behavior (3)~~ ~~MKTG 541 - Retailing (3)~~ ~~MKTG 542 - Professional Selling and Sales Management (3)~~	
PROFESSIONAL ELECTIVES (~~Minimum 14~~ credit hours) ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) ~~AGEC 120 - Ag Econ & Agribusiness (3)~~ ~~AGEC 202 - Small Business Operations (3)~~ ~~AGEC 220 - Grain and Livestock Marketing 3~~ ~~AGEC 308 - Farm and Ranch Management (3)~~ ~~AGEC 315 - Contemporary Issues in Global Food and Agriculture (3)~~ ~~AGEC 318 - Food and Agribusiness Management (3)~~ ~~AGEC 410 - Agricultural Policy (3)~~ ~~AGEC 420 - Commodity Futures (3)~~ ~~AGEC 500 - Production Economics (3)~~ ~~AGEC 505 - Agricultural Market Structures (3)~~ ~~AGEC 513 - Agriculture Finance (3)~~ ~~AGEC 515 - Food and Agribusiness Marketing (3)~~ ~~AGEC 516 - Agricultural Law and Economics (3)~~ ~~AGEC 520 - Market Fundamentals and Futures/Options Trading (3)~~ ~~AGEC 570 - Food Manufacturing, Distribution and Retailing (3)~~ ~~AGEC 599 - Food and Agribusiness Management Strategies (3)~~ ~~AGEC 605 - Price Analysis and Forecasting (3)~~ ~~AGEC 623 - International Agricultural Trade (3)~~ ~~AGEC 632 - Agribusiness Logistics (3)~~ ~~AGEC 680 - Risk Management (3)~~ ~~AGEC 120 - Agricultural Economics and Agribusiness (3)~~ AGRON 335 - Environmental Quality (3) ~~ASI 290 - Microcomputer Applications in Animal Sciences and Industry (3)~~ ~~ASI 303 - History and Attitudes of Animal Use (3)~~ ~~ASI 315 - Livestock and Meat Evaluation (3)~~ ~~ASI 495 - Advanced Meat Evaluation (2)~~ ~~ASI 500 - Genetics (3)~~ ~~ASI 533 - Anatomy and Physiology (4)~~ ~~ASI 595 - Contemporary Issues in Animal Science and Agriculture (3)~~ ~~ASI 645 - Poultry Management (3)~~ ~~ASI 660 - International Experience in ASI (3)~~	**PROFESSIONAL ELECTIVES (<u>16</u> credit hours)** ACCTG 231 - Accounting for Business Operations (3) ACCTG 241 - Accounting for Investing and Financing (3) AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) AGRON 335 - Environmental Quality (3) <u>ASI-Any course between ASI 290 and ASI 777</u> ATM 160 - Engineered Systems and Technology in Agriculture (3) ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3) BIOL 350 – Public Health Biology (3) <u>CIS-Any course between CIS 101 and CIS 105</u> <u>AGEC-Any course 200 level or above</u> ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) <u>ENGL 417 – Written Comm for the Workplace (3)</u> <u>ENGL 510 – Intro to Professional Writing (3)</u> ENGL 516 - Written Communication for the Sciences (3) FINAN 450 - Principles of Finance (3) <u>FDSCI - Any course 400 level or above</u> GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (2) <u>GENAG 505 - Comparative Agriculture (1-4)</u> GENAG 711 – Occupational & Ag Health (3) GENAG 721 – Occupational & Ag Safety & Health (3) <u>GRSC- Any course</u> HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) HMD 643 – Food Writing (3) <u>HN-Any course 300 level or above</u> <u>HORT 325 – Introduction to Organic Farming (2)</u> HORT 780 – Health Promoting Phytochemicals:Fruits and Vegetables (2) LEAD 212 – Introduction to Leadership Concepts (2) <u>MANGT-Any course 300 level or above</u> <u>Modern Language – Any course in ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN, SPAN, URDU</u> <u>MKTG-Any course 400 level or above</u> PHYS 113 – General Physics I (4)

ATM 160 - Engineered Systems and Technology in Agriculture (3) ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3) BIOL 350 – Public Health Biology (3) ~~CIS 101 - Introduction to Computing Systems, Information Search, and Security (1)~~ ~~CIS 102 - Introduction to Spreadsheet Applications (1)~~ ~~CIS 103 - Introduction to Database Applications (1)~~ ~~CIS 104 - Introduction to Word Processing Applications (1)~~ ~~CIS 105 - Introduction to Computer Programming (1)~~ ~~COMM 311 - Business and Professional Speaking (3)~~ ~~COMM 321 - Public Speaking II (3)~~ ~~COMM 322 - Interpersonal Communication (3)~~ ~~COMM 326 - Small Group Discussion Methods (3)~~ ~~COMM 535 - Communication and Leadership (3)~~ ~~ECON 120 - Prin Micro Economics (3)~~ ECON 510 – Intermediate Macro Economics (3) ECON 520 - Intermediate Microeconomics (3) ENGL 300 - Expository Writing III (3) ENGL 516 - Written Communication for the Sciences (3) ~~FDSCI 430 - Food Products Evaluation (3)~~ ~~FDSCI 530 - Undergraduate Research in Food Science (0-3)~~ ~~FDSCI 603 - Food Science Internship (1-6)~~ ~~FDSCI 630 - Food Science Problems (Variable)~~ ~~FDSCI 710 - Kosher & Halal Food Regulations (2)~~ ~~FDSCI 713 - Rapid Methods and Automation in Microbiology (2)~~ ~~FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2)~~ ~~FDSCI 731 - Food Prot and Def:Essential Concepts (2)~~ ~~FDSCI 791 - Advanced Application of HACCP Principles (3)~~ FINAN 450 - Principles of Finance (3) GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (3) GENAG 711 – Occupational & Ag Health (3) GENAG 721 – Occupational & Ag Safety & Health (3) ~~GRSC 540 - Engineering Applications to Grain/Food Products (3)~~ ~~GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1)~~ ~~GRSC 651 - Food and Feed Product Protection (4)~~ ~~GRSC 561 - Qualities of Food and Feed Ingredients (3)~~ HMD 443 – Food Writing (3) ~~HN 301 - Food Trends, Legislation, & Regulation (3)~~ ~~HN 352 - Personal Wellness (3)~~ ~~HN 701 - Sensory Analysis (3)~~ HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) HORT 780 – Health Promoting Phytochemicals:Fruits	PHYS 114 – General Physics II (4) STAT 341 - Biometrics II (3) or STAT 351 – Business & Econ Stat II (3) **UNRESTRICTED ELECTIVES (<u>8-13 credit hours</u>)** **Total hours required for graduation (126 credit hours)**

and Vegetables (2) LEAD 212 – Intro to Leadership Concepts (3) ~~MANGT 300 - Introduction to Total Quality Management (1)~~ ~~MANGT 366 - Information Technology for Business (3)~~ ~~MANGT 390 - Business Law I - (3)~~ ~~MANGT 420 - Management Concepts (3)~~ ~~MANGT 421 - Introduction to Operations Management (3)~~ ~~MANGT 530 - Industrial and Labor Relations (3)~~ ~~MANGT 531 - Human Resources Management (3)~~ ~~MC 110 - Mass Communication in Society (3)~~ ~~MC 111 - Journalism in a Free Society (3)~~ ~~MC 112 - Web Communications in Society (3)~~ ~~MC 120 - Principles of Advertising (3)~~ ~~MC 180 - Fundamentals of Public Relations (3)~~ MKTG 400 - Introduction to Marketing (3) MKTG 450 - Consumer Behavior (3) MKTG 541 - Retailing (3) MKTG 542 - Professional Selling and Sales Management (3) ~~Any foreign language.~~ PHYS 113 – General Physics I (4) PHYS 114 – General Physics II (4) ~~SOCWK 612 - Fund Comm for Ag & Food Sci (3)~~ STAT 341 - Biometrics II (3) STAT 351 – Business & Econ Stat II (3) **UNRESTRICTED ELECTIVES (~~7 12 credit hours~~)** **Total hours required for graduation (126 credit hours)**	

RATIONALE: The removal of SOCWK 612 from the curriculum is proposed because the course is no longer taught.

The removal of the MC 110-180 courses in the 2nd communications block is proposed to require students in this curriculum to take a more writing intensive or oral communication intensive course.

The removal of MATH 100 from the quantitative studies block is proposed because MATH 100, College Algebra, is a prerequisite for MATH 205, General Calculus and Linear Algebra. In general students either transfer in College Algebra or often test to take MATH 205. If a student takes MATH 205, we do not require them to go back and take MATH 100 to meet the degree requirements. Removal of this course will clear up confusion and reduce variances.

The addition of GRSC 645, Pet Food Processing and GRSC 646, Pet Food Processing Laboratory to the processing elective block are proposed as these are new courses that meet the objective of a food science processing elective.

The change in the professional elective block from individually listing all of the courses within the departments to a range of course numbers is proposed so that the list includes new and future courses that meet the professional elective objective. This will also reduce the number of variances that are submitted.

The change in the business, management & economics elective block from individually listing all of the courses within the departments to a range of course numbers is proposed so that the list includes new and future courses that meet the business, management, & economics elective objective. This will also reduce the number of variances that are submitted.

IMPACT: We do not anticipate an impact on the Department of Journalism and Mass Communications as the number of food science students that take these courses would be minimal.

We do not anticipate an impact on the Department of Mathematics as the students that need to take MATH 100 before taking MATH 205 will still do so and those that test directly into MATH 205 already were not going back and taking MATH 100.

We have contacted the Department of Grain Science and Industry for approval of the addition of GRSC 645 & 646.

We do not anticipate an impact to any departments with courses listed in the professional electives block or the business, management & economics block as the Food Science & Industry students are already taking these courses and variances are being used in they take any other courses not listed within those respective departments.

EFFECTIVE DATE: Fall 2015

B.S. in Food Science and Industry:
Science Option

FROM:	TO:
COMMUNICATIONS (10-12 credit hours) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) **Additional Course in Communications (2-3 credit hours)** ~~Courses used to fulfill the 2-3 credit hours of communications electives cannot be used for professional elective.~~ ~~Modern Language - Any foreign language~~ ASI 495 – Advanced Meat Evaluation (2) AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 417 – Written Comm for the Workplace (3) ENGL 510 – Intro to Professional Writing (3) ENGL 516 - Written Communication for the Sciences (3) HMD 643 – Food Writing (3) ~~MC 110 - Mass Communication in Society (3)~~ ~~MC 111 - Journalism in a Free Society (3)~~ ~~MC 112 - Web Communications in Society (3)~~ ~~MC 120 - Principles of Advertising (3)~~ ~~MC 180 - Fundamentals of Public Relations (3)~~ MKTG 542 - Professional Selling and Sales Management (3) ~~SOCWK 612 - Fund Comm for Ag & Food Sci (3)~~ **SOCIAL SCIENCES & HUMANITIES (12 credit hours)** ECON 110 - Principles of Macroeconomics (3) **~~Humanities/social sciences courses~~ (9 credit hours)** Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course	**COMMUNICATIONS (10-12 credit hours)** ENGL 100 - Expository Writing I (3) ENGL 200 - Expository Writing II (3) COMM 105 - Public Speaking IA (2) or COMM 106 - Public Speaking I (3) **<u>One</u> additional communications course (2–3)** AGCOM 400 - Agricultural Business Communications (3) AGCOM 590 - New Media Technology (3) AGCOM 610 - Crisis Communication (3) ASI 495 Advanced Meat Evaluation (2) COMM 311 - Business and Professional Speaking (3) COMM 321 - Public Speaking II (3) COMM 322 - Interpersonal Communication (3) COMM 326 - Small Group Discussion Methods (3) COMM 535 - Communication and Leadership (3) ENGL 417 – Written Comm for the Workplace (3) ENGL 510 – Intro to Professional Writing (3) ENGL 516 - Written Communication for the Sciences (3) HMD 643 – Food Writing (3) MKTG 542 – Professional Selling and Sales (3) <u>Modern Language – Any course in ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN, SPAN, URDU</u> **SOCIAL SCIENCES & HUMANITIES (12 credit hours)** ECON 110 - Principles of Macroeconomics (3) **<u>Select</u> 9 hours** Suggested Courses (must be taken from more than one department): Art – any course Communication Studies, Theatre and Dance – any course Economics – any course between ECON 120-ECON 735 English – any, except ENGL 100 Expository Writing I and ENGL 200 Expository Writing II Family Studies and Human Services – any course Geography – any, except GEOG 221-Environmental Geography I and GEOG 321-Environmental Geography II History – any course Music – any course Philosophy – any course

Music – any course Philosophy – any course Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women's Studies (3) **QUANTITATIVE STUDIES (~~13~~ credit hours)** ~~MATH 100 - College Algebra (3)~~ MATH 220 - Analytic Geometry and Calculus I (4) **Select One** STAT 325 - Introduction to Statistics (3) ~~or~~ STAT 340 - Biometrics I (3) ~~or~~ STAT 350 - Business and Economic Statistics I (3) **Select One** STAT 341 - Biometrics II (3) ~~or~~ STAT 351 - Business and Economic Statistics II (3) **BIOLOGICAL SCIENCES (8 credit hours)** BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4) **PHYSICAL SCIENCES (23 credit hours)** BIOCH 521 - General Biochemistry (3) and BIOCH 522 - General Biochemistry Laboratory (2) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4) CHM 350 - General Organic Chemistry (3) and CHM 351 - General Organic Chemistry Laboratory (2) PHYS 113 – Physics I (4~~) OR~~ PHYS 115 - Descriptive Physics (5) **CORE FOOD SCIENCE COURSES (~~30-31~~ credit hours)** Must have 2.0 GPA average. FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 501 - Food Chemistry (3) FDSCI 600 - Food Microbiology (2) FDSCI 601 – Food Microbiology Lab (2) FDSCI 690 - Principles of HACCP (2) FDSCI 727 - Chemical Methods of Food Analysis (2) FDSCI 728 - Physical Methods of Food Analysis (2) GRSC 540 - Engineering Applications to Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) HN 132 - Basic Nutrition (3) **Select One** FDSCI 695 - Quality Assurance of Food Products (3) ~~or~~ FDSCI 740 - Research and Development of Food Products (4)	Political Science – any course Psychology – any course Sociology, Anthropology, and Social Work – any course ARCH 301 -Appreciation of Architecture (3) WOMST 105 -Introduction to Women's Studies (3) **QUANTITATIVE STUDIES (<u>10</u> credit hours)** MATH 220 - Analytic Geometry and Calculus I (4) **Select One** STAT 325 - Introduction to Statistics (3) STAT 340 - Biometrics I (3) STAT 350 - Business and Economic Statistics I (3) **Select One** STAT 341 - Biometrics II (3) STAT 351 - Business and Economic Statistics II (3) **BIOLOGICAL STUDIES (8 credit hours)** BIOL 198 - Principles of Biology (4) BIOL 455 - General Microbiology (4) **PHYSICAL SCIENCES (<u>22</u>-23 credit hours)** BIOCH 521 - General Biochemistry (3) BIOCH 522 - General Biochemistry Laboratory (2) CHM 210 - Chemistry I (4) CHM 230 - Chemistry II (4) CHM 350 - General Organic Chemistry (3) CHM 351 - General Organic Chemistry Laboratory (2) **<u>Select One</u>** PHYS 113 – General Physics I (4) PHYS 115 - Descriptive Physics (5) **FOOD SCIENCE CORE COURSES (<u>30-32</u> credit hours)** Must have 2.0 GPA average. <u>FDSCI 101- Food Sci and Ind Orientation (1)</u> <u>or</u> <u>GENAG 200 – College Careers (0)</u> FDSCI 302 - Introduction to Food Science (3) FDSCI 305 - Fundamentals of Food Processing (3) FDSCI 500 - Food Science Seminar (1) FDSCI 501 - Food Chemistry (3) FDSCI 600 - Food Microbiology (2) FDSCI 601 – Food Microbiology Lab (2) FDSCI 690 - Principles of HACCP (2) FDSCI 727 - Chemical Methods of Food Analysis (2) FDSCI 728 - Physical Methods of Food Analysis (2) GRSC 540 - Engineering Applications to Grain/Food Products (3) GRSC 541 - Engineering Applications to Grain/Food Products Laboratory (1) **<u>Select One</u>** <u>ASI 318 - Fundamentals of Nutrition (3)</u> HN 132 - Basic Nutrition (3) **Select One** FDSCI 695 - Quality Assurance of Food Products (3)

PROCESSING ELECTIVES ~~(Minimum~~ 8 hours)
Must have ~~8 hours~~ of processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables. ~~Courses used to fulfill the 8 credit hours of processing electives cannot be used for professional elective.~~

ASI 310 - Poultry and Poultry Product Evaluation (2)
ASI 350 - Meat Science (3)
ASI 361 - Meat Animal Processing (2)
ASI 370 - Principles of Meat Evaluation (2)
ASI 405 - Fundamentals of Milk Processing (3)
ASI 495 - Advanced Meat Evaluation (2)
ASI 608 - Dairy Foods Processing & Technology (3)
ASI 610 - Processed Meat Operations (2)
ASI 640 - Poultry Products Technology (3)
ASI 671 - Meat Selection and Utilization (2)
ASI 777 - Meat Technology (3)
FDSCI 660 - International Study Experience in Food Science (0-6)
GRSC 101 - Introduction to Grain Science and Industry (3)
GRSC 150 - Principles of Milling (2)
GRSC 151 - Principles of Milling Laboratory (1)
GRSC 405 - Grain Analysis Techniques (2)
GRSC 602 - Cereal Science (3)
GRSC 625 - Flour and Dough Testing (3)
GRSC 635 - Baking Science I (2)
GRSC 636 - Baking Science I Laboratory (2)
GRSC 637 - Baking Science II (3)
GRSC 638 - Baking Science II Laboratory (1)
HORT 325 – Introduction to Organic Farming (3)

PROFESSIONAL ELECTIVES (~~Minimum 12~~ hours)

ACCTG 231 - Accounting for Business Operations (3)
ACCTG 241 - Accounting for Investing and Financing (3)
AGCOM 400 - Agricultural Business Communications (3)
AGCOM 590 - New Media Technology (3)
AGCOM 610 - Crisis Communication (3)
~~AGEC 120 - Agricultural Economics and Agribusiness (3)~~
~~AGEC 202 - Small Business Ops (3)~~
~~AGEC 220 - Grain and Livestock Marketing 3~~
~~AGEC 308 - Farm and Ranch Management (3)~~
~~AGEC 315 - Contemporary Issues in Global Food and Agriculture (3)~~
~~AGEC 318 - Food and Agribusiness Management (3)~~
~~AGEC 410 - Agricultural Policy (3)~~
~~AGEC 415 - The Global Agricultural Economy, Hunger, and Poverty (3)~~
~~AGEC 420 - Commodity Futures (3)~~
~~AGEC 500 - Production Econ (3)~~
~~AGEC 505 - Agricultural Market Structures (3)~~
~~AGEC 513 - Agriculture Finance (3)~~
~~AGEC 515 - Food and Agribusiness Marketing (3)~~
FDSCI 740 - Research and Development of Food Products (4)

PROCESSING ELECTIVES (8 hours)
Must have processing electives from at least 2 commodity areas - Dairy, Grain, Meat, or Fruit/Vegetables.

ASI 310 - Poultry and Poultry Product Evaluation (2)
ASI 350 - Meat Science (3)
ASI 361 - Meat Animal Processing (2)
ASI 370 - Principles of Meat Evaluation (2)
ASI 405 - Fundamentals of Milk Processing (3)
ASI 495 - Advanced Meat Evaluation (2)
ASI 608 - Dairy Foods Processing & Technology (3)
ASI 610 - Processed Meat Operations (2)
ASI 640 - Poultry Products Technology (3)
ASI 671 - Meat Selection and Utilization (2)
ASI 777 - Meat Technology (3)
FDSCI 660 - International Study Experience in Food Science (0-6)
GRSC 101 - Introduction to Grain Science and Industry (3)
GRSC 150 - Principles of Milling (2)
GRSC 151 - Principles of Milling Laboratory (1)
GRSC 405 - Grain Analysis Techniques (2)
GRSC 602 - Cereal Science (3)
GRSC 625 - Flour and Dough Testing (3)
GRSC 635 - Baking Science I (2)
GRSC 636 - Baking Science I Laboratory (2)
GRSC 637 - Baking Science II (3)
GRSC 638 - Baking Science II Laboratory (1)
GRSC 645 – Pet Food Processing (3)
GRSC 646 – Pet Food Processing Laboratory (1)
HORT 325 – Introduction to Organic Farming (3)

PROFESSIONAL ELECTIVES (14 credit hours)

ACCTG 231 - Accounting for Business Operations (3)
ACCTG 241 - Accounting for Investing and Financing (3)
AGCOM 400 - Agricultural Business Communications (3)
AGCOM 590 - New Media Technology (3)
AGCOM 610 - Crisis Communication (3)
AGEC 120 – Ag Econ & Agribusiness (3)
or
ECON 120- Prin Micro Economics (3)
AGEC-Any course 200 level or above
AGRON 335 - Environmental Quality (3)
ASI-Any course 200 level or above
ATM 160 - Engineered Systems and Technology in Agriculture (3)
ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3)
BIOL-Any course 300 level or above
CHM-Any course 300 level or above
CIS-Any course
COMM 311 - Business and Professional Speaking (3)
COMM 321 - Public Speaking II (3)
COMM 322 - Interpersonal Communication (3)
COMM 326 - Small Group Discussion Methods (3)
COMM 535 - Communication and Leadership (3)

~~AGEC 516 - Agricultural Law and Economics (3)~~
~~AGEC 520 - Market Fundamentals and Futures/Options Trading (3)~~
~~AGEC 570 - Food Manufacturing, Distribution and Retailing (3)~~
~~AGEC 599 - Food and Agribusiness Management Strategies (3)~~
~~AGEC 605 - Price Analysis and Forecasting (3)~~
~~AGEC 623 - International Agricultural Trade (3)~~
~~AGEC 632 - Agribusiness Logistics (3)~~
~~AGEC 680 - Risk Management (3)~~
AGRON 335 - Environmental Quality (3)
~~ASI 290 - Microcomputer Applications in Animal Sciences and Industry (3)~~
~~ASI 303 - History and Attitudes of Animal Use (3)~~
~~ASI 310 - Poultry and Poultry Product Evaluation (2)~~
~~ASI 315 - Livestock and Meat Evaluation (3)~~
~~ASI 350 - Meat Science (3)~~
~~ASI 361 - Meat Animal Processing (2)~~
~~ASI 370 - Principles of Meat Evaluation (2)~~
~~ASI 405 - Fundamentals of Milk Processing (3)~~
~~ASI 495 - Advanced Meat Evaluation (2)~~
~~ASI 500 - Genetics (3)~~
~~ASI 533 - Anatomy and Physiology (4)~~
~~ASI 595 - Contemporary Issues in Animal Science and Agriculture (3)~~
~~ASI 608 - Dairy Foods Processing & Technology (3)~~
~~ASI 610 - Processed Meat Operations (2)~~
~~ASI 640 - Poultry Products Technology (3)~~
~~ASI 645 - Poultry Management (3)~~
~~ASI 660 - International Study Experience in Animal Science (0-6)~~
~~ASI 671 - Meat Selection and Utilization (2)~~
~~ASI 777 - Meat Technology (3)~~
ATM 160 - Engineered Systems and Technology in Agriculture (3)
ATM 450 - Sensors and Controls for Agricultural and Biological Systems (3)
~~BIOL 330 - Public Health Biology (3)~~
~~BIOL 340 - Structure and Function of the Human Body (8)~~
~~BIOL 450 - Modern Genetics (4)~~
~~BIOL 530 - Pathogenic Microbiology (3)~~
~~BIOL 541 - Cell Biology (3)~~
~~BIOL 690 - Microbial Physiology & Metabolism (2)~~
~~CIS 101 - Introduction to Computing Systems, Information Search, and Security (1)~~
~~CIS 102 - Introduction to Spreadsheet Applications (1)~~
~~CIS 103 - Introduction to Database Applications (1)~~
~~CIS 104 - Introduction to Word Processing Applications (1)~~
~~CIS 105 - Introduction to Computer Programming (1)~~
~~CHM 550 - Organic Chemistry II (3)~~
~~CHM 551 - Advanced Organic Laboratory (2)~~
COMM 311 - Business and Professional Speaking (3)
COMM 321 - Public Speaking II (3)
COMM 322 - Interpersonal Communication (3)
COMM 326 - Small Group Discussion Methods (3)
ECON 510 – Intermediate Macro Economics (3)
ECON 520 - Intermediate Microeconomics (3)
ENGL 417 – Written Comm for the Workplace (3)
ENGL 510 – Intro to Professional Writing (3)
ENGL 516 - Written Communication for the Sciences (3)
FINAN 450 - Principles of Finance (3)
FDSCI-Any course 400 level or above
GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (2)
GENAG 505 - Comparative Agriculture (1-4)
GENAG 711 – Occupational & Ag Health (3)
GENAG 721 Occupational & Ag Safety & Health (3)
GNHE 310 – Human Needs (3)
GRSC-Any course
HMD 220 – Environmental Issues in Hospitality (3)
HMD 341 – Principles of Food Production Management (3)
HMD 442 – Introduction to Wines (1)
HMD 643 – Food Writing (3)
HN-Any course 300 level or above
HORT 325 – Introduction to Organic Farming (2)
HORT 780 – Health Promoting Phytochemicals:Fruits and Vegetables (2)
KIN 360 – Anatomy and Physiology (8)
LEAD 212 – Introduction to Leadership Concepts (2)
MANGT-Any course 300 level or above
Modern Language – Any course in foreign language: ARAB, CHINE, FREN, GRM, ITAL, JAPAN, LATIN, PORT, RUSSN, SPAN, URDU
MKTG-Any course 400 level or above
PHYS 114 – General Physics II (4)
Unrestricted Electives (7-12 credit hours)
Total hours required for graduation (126 credit hours)

COMM 535 - Communication and Leadership (3) ECON 120 - Principles of Microeconomics (3) ECON 510 – Intermediate Macroeconomics (3) ECON 520 - Intermediate Microeconomics (3) ~~ENGL 300 - Expository Writing III (3)~~ ENGL 516 - Written Communication for the Sciences (3) FINAN 450 - Principles of Finance (3) ~~FDSCI 430 - Food Products Evaluation (3)~~ ~~FDSCI 530 - Undergraduate Research in Food Science (0-3)~~ ~~FDSCI 603 - Food Science Internship (1-6)~~ ~~FDSCI 630 - Food Science Problems (Variable)~~ ~~FDSCI 660 - International Study Experience in Food Science (0-6)~~ ~~FDSCI 710 - Kosher & Halal Food Regulations (2)~~ ~~FDSCI 713 - Rapid Methods and Automation in Microbiology (2)~~ ~~FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2)~~ ~~FDSCI 731 - Food Prot and Def: Essential Concepts (3)~~ ~~FDSCI 791 - Advanced Application of HACCP Principles (3)~~ GENAG 210 – Human and Cultural Diversity in Food and Agricultural Sciences (2) GENAG 505 - Comparative Agriculture (1-4) GENAG 711 – Occupational & Ag Health (3) GENAG 721 Occupational & Ag Safety & Health (3) GNHE 310 - Human Needs (3) ~~GRSC 101 - Introduction to Grain Science and Industry (3)~~ ~~GRSC 150 - Principles of Milling (2)~~ ~~GRSC 151 - Principles of Milling Laboratory (1)~~ ~~GRSC 405 - Grain Analysis Techniques (2)~~ ~~GRSC 602 - Cereal Science (3)~~ ~~GRSC 625 - Flour and Dough Testing (3)~~ ~~GRSC 635 - Baking Science I (2)~~ ~~GRSC 636 - Baking Science I Laboratory (2)~~ ~~GRSC 637 - Baking Science II (3)~~ ~~GRSC 638 - Baking Science II Laboratory (1)~~ HMD 220 – Environmental Issues in Hospitality (3) HMD 341 – Principles of Food Production Management (3) HMD 442 – Introduction to Wines (1) HMD 443 – Food Writing (3) ~~HN 352 - Personal Wellness (3)~~ ~~HN 400 - Human Nutrition (3)~~ ~~HN 510 - Life Span Nutrition (3)~~ ~~HN 620 - Nutrient Metabolism (3)~~ ~~HN 701 - Sensory Analysis (3)~~ HORT 325 – Introduction to Organic Farming (3) HORT 780 – Health-Promoting Phytochemicals: Fruits and Vegetables (2) ~~GRSC 561 - Qualities of Food and Feed Ingredients (3)~~ ~~GRSC 651 - Food and Feed Product Protection (4)~~ LEAD 212 – Intro to Leadership Concepts (3) ~~MANGT 300 - Introduction to Total Quality~~	

~~Management (1)~~ ~~MANGT 366 - Information Technology for Business (3)~~ ~~MANGT 390 - Business Law I (3)~~ ~~MANGT 420 - Management Concepts (3)~~ ~~MANGT 421 - Introduction to Operations Management (3)~~ ~~MANGT 530 - Industrial and Labor Relations (3)~~ ~~MANGT 531 - Human Resources Management (3)~~ ~~MC 110 - Mass Communication in Society (3)~~ ~~MC 111 - Journalism in Free Society (3)~~ ~~MC 112 - Web Communication in Society (3)~~ ~~MC 120 - Principles of Advertising (3)~~ ~~MC 180 - Fundamentals of Public Relations (3)~~ ~~MKTG 400 - Introduction to Marketing (3)~~ ~~MKTG 450 - Consumer Behavior (3)~~ ~~MKTG 541 - Retailing (3)~~ ~~MKTG 542 - Professional Selling and Sales Management (3)~~ ~~Modern Language - Any foreign language~~ PHYS 114 - General Physics II (4) ~~SOCWK 612 - Fund Comm for Ag & Food Sci (3)~~ **UNRESTRICTED ELECTIVES (7-10 credit hours)** **Total hours required for graduation (126 credit hours)**	

RATIONALE: The removal of SOCWK 612 from the curriculum is proposed because the course is no longer taught.

The removal of the MC 110-180 courses in the 2nd communications block is proposed to require students in this curriculum to take a more writing intensive or oral communication intensive course.

The removal of MATH 100 from the quantitative studies block is proposed because MATH 100, College Algebra, is a prerequisite for MATH 205, General Calculus and Linear Algebra. In general students either transfer in College Algebra or often test to take MATH 205. If a student takes MATH 205, we do not require them to go back and take MATH 100 to meet the degree requirements. Removal of this course will clear up confusion and reduce variances.

The addition of GRSC 645, Pet Food Processing and GRSC 646, Pet Food Processing Laboratory to the processing elective block are proposed as these are new courses that meet the objective of a food science processing elective.

The change in the professional elective block from individually listing all of the courses within the departments to a range of course numbers is proposed so that the list includes new and future courses that meet the professional elective objective. This will also reduce the number of variances that are submitted.

IMPACT: We do not anticipate an impact on the Department of Journalism and Mass Communications as the number of food science students that take these courses would be minimal.

We do not anticipate an impact on the Department of Mathematics as the students that need to take MATH 100 before taking MATH 205 will still do so and those that test directly into MATH 205 already were not going back and taking MATH 100.

We have contacted the Department of Grain Science and Industry for approval of the addition of GRSC 645 & 646.

We do not anticipate an impact to any departments with courses listed in the professional electives block or the business, management & economics block as the Food Science & Industry students are already taking these courses and variances are being used in they take any other courses not listed within those respective departments.

EFFECTIVE DATE: Fall 2015

Horticulture, Forestry, and Recreational Resources

B.S. in Agriculture: Horticulture Major: Horticulture Production Option

FROM: ~~Greenhouse & Nursery Production~~		**TO: Horticulture Production**	
Communications	(14-16 hours)	**Communications**	(14-16 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication elective	(3)	Communication elective	(3)
Foreign Language elective	(3-5)	Foreign Language elective	(3-5)
Humanities/Social Sciences Electives	(6 hours)	**Humanities/Social Sciences Electives**	(6 hours)
~~GEOG 100* – World Regional Geography~~	~~(3)~~	Elective	(3)
or		Elective	(3)
~~PSYCH 110* – General Psychology~~	~~(3)~~		
or			
~~SOCIO 211* – Intro to Sociology~~	~~(3)~~		
~~Humanities elective~~	~~(3)~~		
Quantitative Sciences	(~~18~~ hours)	**Quantitative Sciences**	(15 hours)
BIOCHM 265* - Intro. Organic Biochemistry	(5)	BIOCHM 265* - Intro. Organic Biochemistry	(5)
CHM 110* - General Chemistry	(3)	CHM 110* - General Chemistry	(3)
and		and	
CHM 111* - General Chemistry Laboratory	(1)	CHM 111* - General Chemistry Laboratory	(1)
MATH 100* – College Algebra	(3)	MATH 100* – College Algebra	(3)
Math/Physics elective	(3)	Math/Physics/Statistics elective	(3)
~~Statistics elective~~	~~(3)~~		
~~**Agric./Biological Sciences**~~	~~(25 hours)~~	**Biological/Environmental Sciences**	(24-25 hours)
AGRON 305* - Soils	(4)	AGRON 305* - Soils	(4)

~~ASI 500* – Genetics (3)~~	BIOL 198* - Principles of Biology (4)
BIOL 198* - Principles of Biology (4)	BIOL 500 – Plant Physiology (3-4)
HORT 201* – Princ. of Horticulture Science (4)	HORT 201* – Princ. of Horticulture Science (4)
BIOL 500 – Plant Physiology ~~(4)~~	PLPTH 500* – Princ. Plant Pathology (3)
PLPTH 500* – Princ. Plant Pathology (3)	Environmental Science/Biology elective (3)
Entomology elective (3)	Entomology elective (3)
Econ./Business Electives (15 hours)	**Econ/Business Electives** (15 hours)
ACCTG 231* – Accounting for Bus. Opers. (3)	ACCTG 231* – Accounting for Bus. Opers. (3)
ECON 110* – Princ. of Macroeconomics (3)	ECON 110* – Princ. of Macroeconomics (3)
or	or
ECON 120* – Princ. of Microeconomics (3)	ECON 120* – Princ. of Microeconomics (3)
Econ./Business electives (9)	Econ./Business electives (9)
~~**Horticulture Requirement** (12 – 15 hours)~~	**Horticulture Core Requirements** (14 hours)
~~HORT 190* - Pre-Internship in Horticulture (1)~~	HORT 190 Preparing for your Horticulture Career (1)
HORT 350 – Plant Propagation (3)	HORT 350 – Plant Propagation (3)
HORT 520* – Fruit Production (3)	HORT 374 – Landscape Plants I (3)
or	HORT 520* – Fruit Production (3)
HORT 560* – Vegetable Crop Production (3)	or
HORT 590* – Hort. Internship (~~2-5~~)	HORT 560* – Vegetable Crop Production (3)
HORT 599 – ~~The Horticultural Professional~~ (~~0~~)	or
~~Environmental Science elective (3)~~	HORT 570* – Greenhouse Operations Mgmt. (3)
	or
~~**Greenhouse and Nursery Management**~~	HORT 575* – Nursery Management (3)
Specialization (32-34 hours)	HORT 582 – Foundations of Hort. Pest Mgt. (1)
HORT 570* – Greenhouse Operations Mgmt. (3)	HORT 590* – Hort. Internship (3)
HORT 575* – Nursery Management (3)	HORT 599 – Hort.Professional (0)
HORT 582 – Foundations of Hort. Pest Mgt. (1)	
HORT 600* – Herbaceous ~~Landscape Plant~~ Prod.(3)	**Horticulture Production Specialization** (14 hours)
HORT 625* – Floral Crops Prod./Handling (2)	
PLPTH 590 – Landscape Diseases (2)	HORT 375 – Landscape Plants II (3)
Plant Materials electives (9)	PLPTH 590 or other Pest Mgmt. Elective (2)
Specialization electives (10-12)	HORT 600* – Herbaceous Crop Production (3)
Specialization Electives: Choose 10-12 hours from list below.	Plus, choose two of the following courses:
AGRON 330* – Weed Science (3)	HORT 520* – Fruit Production (3)
HORT 210 – Concepts of Floral Design (3)	HORT 560* – Vegetable Crop Production (3)
HORT 275* – Horticultural Design I (3)	HORT 570* – Greenhouse Operations Mgmt. (3)
HORT 325* – Intro. Organic Farming (2)	
HORT 390 – Hort. Topics (1-3)	**Specialization Electives** (20 hours)
or	*Select 20 credit hours from the list below.*
HORT 640 – Hort. Problems (1-3)	
Either HORT 390 or 640 may be used for a total of 3 credit hours.	HORT 210 – Concepts of Floral Design (3)
HORT 405* – Water Issues/Lawn & Landscape (3)	HORT 275* – Horticultural Design I (3)
HORT 508* – ~~Landscape Maintenance~~ (~~2~~)	HORT 325* – Intro. Organic Farming (2)
HORT 515* – Basic Turfgrass Culture (2)	AGRON 330* – Weed Science (3)
HORT 520* – Fruit Production (3)	AGRON 375 – Soil Fertility (3)
HORT 550 – Landscape Irrigation Systems (3)	HORT 508 – Sustainable Land. Maint. Practices (3)
HORT 560* – Vegetable Crop Production (3)	HORT 515* – Basic Turfgrass Culture (2)
HORT 585* – Arboriculture (3)	HORT 520* – Fruit Production (3)
	HORT 550 – Landscape Irrigation Systems (3)
	HORT 551 – Landscape Contracting/Constr. (3)

HORT 710 – Plant Cell, Tissue & Organ Cult. (3) HORT 790* – Sustainable Agriculture (2) PLPTH 590 – Landscape Diseases (2) **Free Electives (~~0~~ ~~9~~ credit hours)** **Total Credits for Graduation (~~130~~ credit hours)** **DESIGNATED ELECTIVES** (NOTE: Confer with advisor to select appropriate courses.) **Econ./Business Electives 9 hrs.** Any ACCTG course 200 or above excl. ACCTG 231 AGEC 120* Agr. Econ. and Agribus. 3 (F,S) (Select only if ECON 120 not taken) Any AGEC course 200 or above Any MANGT course 300 or above MC 120* Principles of Advertising 3 (F,S) MC 180 Fund. of Public Relations 3 (F,S) Any MKTG course 300 or above Any ECON course 300 or above **Communications Elective 3 hrs.** AGCOM 400 Ag Bus. Comm. 3 (F,S) ENGL 300 Expository Writing III 3 (F,S) ENGL 516 Written Comm. Sci. 3 (F,S) COMM 311* Bus. Prof. Speaking 3 (F,S) COMM 321* Public Speaking II 3 (F,S) COMM 322* Interpersonal Comm. 3 (F,S,U) COMM 323* Nonverbal Comm. 3 (F,S) COMM 325* Argumentation and Debate 3 (S) COMM 326* Small Group Discussion Methods 3 (F,S,U) **Entomology Elective 3 hrs.** ENTOM 300* Economic Entomology 3 (S) ENTOM 312* General Entomology 3 (F) ENTOM 320* Horticultural Entomology 3 (F) **Environmental Science Elective 3 hrs.** AGRON 335* Environmental Quality 3 (F) ~~FOR 375~~* Intro. Natural Res. Mgt. 3 (F) LAR 322* Environ. Issues & Ethics 3 (S) **Foreign Language Elective 3-5 hrs.** Any introductory (or higher) course in a Modern Language. Preferred course: SPAN 161* Spanish I 5 (F,S,U) **Math/Physics Elective 3 hrs.** MATH 150* Plane Trigonometry 3 (F,S,U) MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U) PHYS 101* The Physical World I 3 (F,S,U)	HORT 560* – Vegetable Crop Production (3) HORT 570* – Greenhouse Operations Mgmt. (3) HORT 575* – Nursery Management (3) HORT 585* – Arboriculture (3) HORT 640 – Prb./Landscape Irrigation Design (3) HORT 625* – Floral Crops Prod./Handling (2) HORT 710 – Plant Cell, Tissue & Organ Cult. (3) HORT 780 – Health-Promoting Phytochemicals: Fruits and Vegetables (2) HORT 790* – Sustainable Agriculture (2) HORT 791* – Urban Agriculture (2) **Free Electives (1-3 credit hours)** **Total Credits for Graduation (126 credit hours)** **DESIGNATED ELECTIVES** (NOTE: Confer with advisor to select appropriate courses.) **Econ./Business Electives 9 hrs.** Any ACCTG course 200 or above excl. ACCTG 231 AGEC 120* Agr. Econ. and Agribus. 3 (F,S) (Select only if ECON 120 not taken) Any AGEC course 200 or above Any MANGT course 300 or above MC 120* Principles of Advertising 3 (F,S) MC 180 Fund. of Public Relations 3 (F,S) Any MKTG course 300 or above Any ECON course 300 or above **Communications Elective 3 hrs.** AGCOM 400 Ag Bus. Comm. 3 (F,S) ENGL 300 Expository Writing III 3 (F,S) ENGL 516 Written Comm. Sci. 3 (F,S) COMM 311* Bus. Prof. Speaking 3 (F,S) COMM 321* Public Speaking II 3 (F,S) COMM 322* Interpersonal Comm. 3 (F,S,U) COMM 323* Nonverbal Comm. 3 (F,S) COMM 325* Argumentation and Debate 3 (S) COMM 326* Small Group Discussion Methods 3 (F,S,U) **Entomology Elective 3 hrs.** ENTOM 300* Economic Entomology 3 (S) ENTOM 312* General Entomology 3 (F) ENTOM 320* Horticultural Entomology 3 (F) **Environmental Science/Biology Elective 3 hrs.** AGRON 335* Environmental Quality 3 (F) PMC 275* Intro. Natural Res. Mgt. 3 (F) LAR 322* Environ. Issues & Ethics 3 (S) Any Biology course above 300 level

Plant Materials Elective ~~**9 hrs.**~~ HORT 374 Landscape Plants I 3 (F) HORT 375 Landscape Plants II 3 (S) ~~HORT 377 Plants of the Interior Environ. 3 (S)~~ **Statistics Elective** **3 hrs.** STAT 325* (3) Introduction to Statistics (F,S) STAT 340* (3) Biometrics I (F,S,U) STAT 350* (3) Bus. & Econ. Stat. I (S) * **Approved K-State 8/General Education Courses**	**Foreign Language Elective** **3-5 hrs.** Any introductory (or higher) course in a Modern Language. Preferred course: SPAN 161* Spanish I 5 (F,S,U) **Math/Physics Elective** **3 hrs.** MATH 150* Plane Trigonometry 3 (F,S,U) MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U) PHYS 101* The Physical World I 3 (F,S,U) **Plant Materials Elective** **6 hrs.** HORT 374 Landscape Plants I 3 (F) HORT 375 Landscape Plants II 3 (S) **Statistics Elective** **3 hrs.** STAT 325* (3) Introduction to Statistics (F,S) STAT 340* (3) Biometrics I (F,S,U) STAT 350* (3) Bus. & Econ. Stat. I (S) * **Approved K-State 8/General Education Courses**

RATIONALE: The Greenhouse & Nursery Production Option and the Fruit and Vegetable Option are being revised and combined into a single option that is renamed the Horticulture Production Option. This curriculum revision responds to industry, condenses and modernizes our programs in horticulture production, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department: Animal Science has been contacted re: ASI 500; Agronomy re: AGRON 330; Plant Pathology re: PLPTH 590.

EFFECTIVE DATE: Fall 2015

B.S. in Horticulture: Horticulture Major: Horticulture Production Option

FROM: ~~Fruit and Vegetable Production~~		**TO: Horticulture Production**	
Communications	(14-16 hours)	**Communications**	(14-16 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication elective	(3)	Communication elective	(3)
Foreign Language elective	(3-5)	Foreign Language elective	(3-5)
Humanities/Social Sciences Electives	(6 hours)	**Humanities/Social Sciences Electives**	(6 hours)
~~GEOG 100* – World Regional Geography~~	~~(3)~~	Elective	(3)
or		Elective	(3)
~~PSYCH 110* – General Psychology~~	~~(3)~~		
or		**Quantitative Sciences**	(15 hours)
~~SOCIO 211* – Intro to Sociology~~	~~(3)~~	BIOCHM 265* - Intro. Organic Biochemistry	(5)
~~Humanities elective~~	~~(3)~~	CHM 110* - General Chemistry	(3)

Quantitative Sciences (~~18~~ hours)
BIOCHM 265* - Intro. Organic Biochemistry (5)
CHM 110* - General Chemistry (3)
and
CHM 111* - General Chemistry Laboratory (1)
MATH 100* – College Algebra (3)
Math/Physics elective (3)
Statistics elective (3)

~~**Agric./Biological Sciences** (25 hours)~~
AGRON 305* - Soils (4)
~~ASI 500* Genetics (3)~~
BIOL 198* - Principles of Biology (4)
HORT 201* – Princ. of Horticulture Science (4)
BIOL 500 – Plant Physiology ~~(4)~~
PLPTH 500* – Princ. Plant Pathology (3)
Entomology elective (3)

Econ./Business Electives (15 hours)
ACCTG 231* – Accounting for Bus. Opers. (3)
ECON 110* – Princ. of Macroeconomics (3)
or
ECON 120* – Princ. of Microeconomics (3)
Econ./Business electives (9)

~~**Horticulture Requirement** (12 – 15 hours)~~
~~HORT 190* - Pre-Internship in Horticulture~~ (1)
HORT 350 – Plant Propagation (3)
HORT 520* – Fruit Production (3)
or
HORT 560* – Vegetable Crop Production (3)
HORT 590* – Hort. Internship (~~2-5~~)
HORT 599 – ~~The Horticultural Professional~~ (~~0~~)
~~Environmental Science elective (3)~~

~~**Fruit/Vegetable Production Specialization** (29 hrs)~~
AGRON 330* – Weed Science (3)
HORT 325* – Intro. Organic Farming (2)
HORT 560* – Vegetable Crop Production (3)
HORT 570* – Greenhouse Operations Mgmt. (3)
HORT 582 – Foundations of Hort. Pest Mgt. (1)
HORT 600* – Herbaceous Landscape Plant Prod.(3)
PLPTH 590 – Landscape Diseases (2)
Specialization electives (10)
Choose 10 hours from list below.
AGRON 375* – Soil Fertility (3)
HORT 210 – Concepts of Floral Design (3)
HORT 275* – Horticultural Design I (3)
HORT 374 – Landscape Plants II (3)
or
HORT 375 – Landscape Plants II (3)
HORT 390 – Hort. Topics (1-3)

and
CHM 111* - General Chemistry Laboratory (1)
MATH 100* – College Algebra (3)
Math/Physics/Statistics elective (3)

Biological/Environmental Sciences (24-25 hours)
AGRON 305* - Soils (4)
BIOL 198* - Principles of Biology (4)
BIOL 500 – Plant Physiology (3-4)
HORT 201* – Princ. of Horticulture Science (4)
PLPTH 500* – Princ. Plant Pathology (3)
Environmental Science/Biology elective (3)
Entomology elective (3)

Econ/Business Electives (15 hours)
ACCTG 231* – Accounting for Bus. Opers. (3)
ECON 110* – Princ. of Macroeconomics (3)
or
ECON 120* – Princ. of Microeconomics (3)
Econ./Business electives (9)

Horticulture Core Requirements (14 hours)
HORT 190 Preparing for your Horticulture Career (1)
HORT 350 – Plant Propagation (3)
HORT 374 – Landscape Plants I (3)
HORT 520* – Fruit Production (3)
or
HORT 560* – Vegetable Crop Production (3)
or
HORT 570* – Greenhouse Operations Mgmt. (3)
or
HORT 575* – Nursery Management (3)
HORT 582 – Foundations of Hort. Pest Mgt. (1)
HORT 590* – Hort. Internship (3)
HORT 599 – Hort.Professional (0)

Horticulture Production Specialization (14 hours)

HORT 375 – Landscape Plants II (3)
PLPTH 590 or other Pest Mgmt. Elective (2)
HORT 600* – Herbaceous Crop Production (3)

Plus, choose two of the following courses:
HORT 520* – Fruit Production (3)
HORT 560* – Vegetable Crop Production (3)
HORT 570* – Greenhouse Operations Mgmt. (3)

Specialization Electives (20 hours)
Select 20 credit hours from the list below.

HORT 210 – Concepts of Floral Design (3)
HORT 275* – Horticultural Design I (3)
HORT 325* – Intro. Organic Farming (2)

or HORT 640 – Hort. Problems (1-3) Either HORT 390 or 640 may be used for a total of 3 credit hours. HORT 405* – Water Issues/Lawn & Landscape (3) HORT 508* – Landscape Maintenance (2) HORT 515* – Basic Turfgrass Culture (2) HORT 520* – Fruit Production (3) HORT 550 – Landscape Irrigation Systems (3) HORT 575* – Nursery Management (3) HORT 625* – Floral Crops Prod./Handling (2) HORT 585* – Arboriculture (3) HORT 710 – Plant Cell, Tissue & Organ Cult. (3) HORT 790* – Sustainable Agriculture (2) PLPTH 590 – Landscape Diseases (2) **Free Electives (~~6~~ ~~11~~ credit hours)** **Total Credits for Graduation (~~130~~ credit hours)**	AGRON 330* – Weed Science (3) AGRON 375 – Soil Fertility (3) HORT 508 – Sustainable Land. Maint. Practices (3) HORT 515* – Basic Turfgrass Culture (2) HORT 520* – Fruit Production (3) HORT 550 – Landscape Irrigation Systems (3) HORT 551 – Landscape Contracting/Constr. (3) HORT 560* – Vegetable Crop Production (3) HORT 570* – Greenhouse Operations Mgmt. (3) HORT 575* – Nursery Management (3) HORT 585* – Arboriculture (3) HORT 640 – Prb./Landscape Irrigation Design (3) HORT 625* – Floral Crops Prod./Handling (2) HORT 710 – Plant Cell, Tissue & Organ Cult. (3) HORT 780 – Health-Promoting Phytochemicals: Fruits and Vegetables (2) HORT 790* – Sustainable Agriculture (2) HORT 791* – Urban Agriculture (2) PLPTH 590 – Landscape Diseases (2) **Free Electives (1-3 credit hours)** **Total Credits for Graduation (126 credit hours)**

RATIONALE: The Greenhouse & Nursery Production Option and the Fruit and Vegetable Option are being revised and combined into a single option that is renamed the Horticulture Production Option. This curriculum revision responds to industry, condenses and modernizes our programs in horticulture production, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department: Animal Science has been contacted re: ASI 500.

EFFECTIVE DATE: Fall 2015

B.S. in Agriculture: Horticulture Major: Golf Course and Sports Turf Operations Option

FROM: ~~Golf Course Management~~		**TO: Golf Course and Sports Turf Operations**	
Technical Core	(~~20~~ hours)	**Technical Core**	(14 hours)
BIOL 198* Principles of Biology	(4)	BIOL 198* Principles of Biology	(4)
CHM 110* General Chemistry	(3)	CHM 110* General Chemistry	(3)
CHM 110 General Chemistry Lab	(1)	CHM 110 General Chemistry Lab	(1)
MATH 100* College Algebra	(3)	MATH 100* College Algebra	(3)
~~MATH 205* Gen. Calc. & Linear Alg.~~	~~(3)~~	Statistics elective	(3)
~~Computer Science elective~~	~~(3)~~		
Statistics elective	(3)		
Communications and Interpersonal Relations	(17 hours)	**Communications and Interpersonal Relations**	(17 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication electives	(9)	Communication electives	(9)
Internship	(~~6~~ hours)	**Internship**	(7 hours)
~~HORT 190* Pre-Internship in Hort~~.	(1)	HORT 190 Preparing for your Horticulture Career	(1)
HORT 590* Hort. Internship (golf facility)	(~~2~~)	HORT 590* Hort. Internship (golf facility)	(3)
Plus a second internship as listed below:		Plus a second internship as listed below:	
HORT 590* Horticulture Internship	(3)	HORT 590* Horticulture Internship	(3)
OR		OR	
HMD 495* Golf Course Internship in Hospitality Management	(3)	HMD 495* Golf Course Internship in Hospitality Management	(3)
HORT 599 The Hort. Professional	(0)	HORT 599 The Hort. Professional	(0)
Humanities and Social Sciences	(12-14 hours)	**Humanities and Social Sciences**	(12-14 hours)
ECON 110* Prin. of Macroeconomics	(3)	ECON 110* Prin. of Macroeconomics	(3)
		ECON 120* Prin. of Microeconomics	(3)
		OR	

ECON 120* Prin. of Microeconomics	(3)
OR	
AGEC 120* Agric. Econ. & Agribus.	(3)
Foreign Language elective	(3-5)
Humanities and Soc. Sci. electives	(3)
Business Management	(15 hours)
ACCTG 231* Accounting for Bus. Op.	(3)
ACCTG 241* Accouting for Inv. & Fin.	(3)
MANGT 420* Management Concepts	(3)
MKTG 400* Marketing	(3)
Business Management elective	(3)
Turf Management Specialization	(~~37-39~~ hours)
AGRON 305* Soils	(4)
AGRON 375* Soil Fertility	(3)
HORT 201* Prin. of Hort. Science	(4)
HORT 515* Basic Turfgrass Culture	(2)
HORT 516* Int. Cult. Golf/Sports Turf	(1)
HORT 517 Golf & Sports Turf Op.	(3)
HORT 582 Foundations of Hort. Pest Management	(1)
HORT 587* Turfgrass Disease Mgt.	(1)
HORT 588* Turfgrass Weed Mgt.	(1)
ENTOM 589* Turfgrass Insect Mgt.	(1)
HORT 706 Turfgrass Science	(3)

AGEC 120* Agric. Econ. & Agribus.	(3)
Foreign Language elective	(3-5)
Humanities and Soc. Sci. electives	(3)
Business Management	(15 hours)
ACCTG 231* Accounting for Bus. Op.	(3)
ACCTG 241* Accouting for Inv. & Fin.	(3)
MANGT 420* Management Concepts	(3)
MKTG 400* Marketing	(3)
Business Management elective	(3)
Turf Management Specialization	(<u>41-42</u> hours)
AGRON 305* Soils	(4)
AGRON 375* Soil Fertility	(3)
HORT 201* Prin. of Hort. Science	(4)
<u>HORT 350 Plant Propagation</u>	<u>(3)</u>
<u>HORT 374 Landscape Plants I</u>	<u>(3)</u>
HORT 515* Basic Turfgrass Culture	(2)
HORT 516* Int. Cult. Golf/Sports Turf	(1)
HORT 517 Golf & Sports Turf Op.	(3)
<u>HORT 550 Landscape Irrig. Systems</u>	<u>(3)</u>
HORT 582 Foundations of Hort. Pest Mgt.	(1)
HORT 587* Turfgrass Disease Mgt.	(1)
HORT 588* Turfgrass Weed Mgt.	(1)
ENTOM 589* Turfgrass Insect Mgt.	(1)

PLPTH 500* Prin. of Plant Pathology (3)	HORT 706 Turfgrass Science (3)
Environmental elective (3)	PLPTH 500* Prin. of Plant Pathology (3)
Horticulture elective (2-3)	Environmental elective (3)
~~Irrigation elective (2-3)~~	Horticulture elective (2-3)
~~Plant Material elective (3)~~	
	Hospitality electives (9 hours)
Hospitality electives (~~12~~ hours)	Select 9 hours from the following list:
Select ~~12~~ hours from the following list:	HMD 220 Environ. Issues in Hosp. (3)
~~FDSCI 302 Intro. to Food Science (3)~~	HMD 340 Cont. Issues in Cont. Bev. (2)
~~FDSCI 690 Prin. of HAACP (2)~~	HMD 341 Prin. of Food Prod. Mgt. (3)
HMD 220 Environ. Issues in Hosp. (3)	HMD 421 Hospitality Service Systems (3)
HMD 340 Cont. Issues in Cont. Bev. (2)	HMD 331 Professional Club Mgt. (3)
HMD 341 Prin. of Food Prod. Mgt. (3)	HMD 424 Hosp. Marketing & Sales (3)
HMD 421 Hospitality Service Systems (3)	HMD 621 Hospitality Law (3)
HMD 331 Professional Club Mgt. (3)	
	Free electives (8-11 hours)
Free electives (~~7-11~~ hours)	
	Total Credit Hours (126 hours)
Total Credit Hours (~~130~~ hours)	
Electives From Which to Choose:	**Electives From Which to Choose:**

Business Management Electives **3**	**Business Management Electives** **3**
AGEC 202* Small Business Operations 3	AGEC 202* Small Business Operations 3
~~AGEC 513* Agricultural Finance 3~~	FINAN 450* Principles of Finance 3
FINAN 450* Principles of Finance 3	MANGT 390* Business Law 1 3
MANGT 390* Business Law 1 3	ENTRP 340* Intro. to Entrepreneurship 3
	FINAN 460* Insurance 3
	MKTG 450* Consumer Behavior 3
Communications Electives **9**	**Communications Electives** **9**
AGCOM 400 Agric. Business Comm. 3	AGCOM 400 Agric. Business Comm. 3
ENGL 300 Expository Writing III 3	ENGL 300 Expository Writing III 3
ENGL 516 Written Comm. for the Sci. 3	ENGL 516 Written Comm. for the Sci. 3
MKTG 542* Personal Selling & Sales Mgt. 3	MKTG 542* Personal Selling & Sales Mgt. 3
COMM 311* Bus. and Prof. Speaking 3	COMM 311* Bus. and Prof. Speaking 3
COMM 321* Public Speaking II 3	COMM 321* Public Speaking II 3
COMM 322* Interpersonal Comm. 3 COMM 323* Nonverbal Comm. 3 COMM 325* Argumentation & Debate 3 COMM 326* Small Group Disc. Meth. 3	COMM 322* Interpersonal Comm. 3 COMM 323* Nonverbal Comm. 3 COMM 325* Argumentation & Debate 3 COMM 326* Small Group Disc. Meth. 3
~~**Computer Science Elective** **3**~~ ~~AGRON 455 Computer Apps. in Agronomy 3~~ ~~Or choose any 3 of the following courses:~~ ~~CIS 101* Intro. Information Tech 1~~ ~~CIS 102* Intro. Spreadsheet Apps 1~~ ~~CIS 103* Intro. Database Apps 1~~ ~~CIS 104 Intro. Wordprocessing 1~~	**Environmental Elective** **3** AGRON 335* Environmental Quality 3 PMC 275* Intro. to Natural Resource Mgt. 3 HORT 405* Water Iss./Lawn & Landscape 3 LAR 322* Env. Issues & Ethics 3
Environmental Elective **3** AGRON 335* Environmental Quality 3 ~~FOR 375*~~ Intro. to Natural Resource Mgt. 3	**Foreign Language Elective** **3-5** Any introductory (or higher) course in a Modern Language. One of the following is preferred: SPAN 161* Spanish 1 5 **SPAN 162* Spanish 2 5** **SPAN 261* Spanish 3 5** **SPAN 361* Spanish 4 4**
Foreign Language Elective **3-5** Any introductory (or higher) course in a Modern Language. ~~Preferred course:~~ SPAN 161* Spanish 1 5	**Horticulture Elective** **2-3** AGRON 746 Physical Properties of Soil 3 HORT 375 Landscape Plants II 3 HORT 405* Water Iss./Lawn & Landscape 3
Horticulture Elective **2-3**	

AGRON 746 Physical Properties of Soil 3 ~~HORT 374 Landscape Plants I 3~~ HORT 375 Landscape Plants II 3 HORT 405* Water Issues in the Lawn & Landscape 3 HORT 508* ~~Landscape Maintenance~~ ~~2~~ HORT 585* Arboriculture 3 HORT ~~690~~* Sustainable Agriculture 2 PLPTH 590* Landscape Diseases 2 ~~**Irrigation Elective 2 3**~~ ~~ATM 653 Water Mgt. and Irr. Systems 2~~ ~~HORT 550 Landscape Irrigation Systems 3~~ ~~**Plant Material Elective 3**~~ ~~HORT 374 Landscape Plants I 3~~ ~~HORT 375 Landscape Plants II 3~~ **Statistics Elective 3** STAT 325* Intro. to Statistics 3 STAT 340* Biometrics I 3 STAT 350* Bus. and Economic Statistics I 3	HORT 508* Sust. Landscape Maint. Pract. 3 HORT 585* Arboriculture 3 HORT 790* Sustainable Agriculture 2 PLPTH 590* Landscape Diseases 2 **Statistics Elective 3** STAT 325* Intro. to Statistics 3 STAT 340* Biometrics I 3 STAT 350* Bus. and Economic Statistics I 3

RATIONALE: The Golf Course Management Option and the Sports Turf Option are being revised and combined into a single option that is renamed the Golf Course and Sports Turf Operations Option. This curriculum revision responds to industry, condenses and modernizes our programs in golf course and sports turf operations, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department include programs whose course enrollments may be affected by deletion from requirements or shifting from "Required" to "Elective." This includes courses that we are now adding to the "Required." Departments offering CIS, FDSCI, and AGEC 513 have been contacted.

EFFECTIVE DATE: Fall 2015

B.S. in Agriculture: Horticulture Major: Golf Course and Sports Turf Operations Option

FROM: ~~Sports Turf Management~~		**TO: Golf Course and Sports Turf Operations**	
Technical Core	(~~20~~ hours)	**Technical Core**	(14 hours)
BIOL 198* Principles of Biology	(4)	BIOL 198* Principles of Biology	(4)
CHM 110* General Chemistry	(3)	CHM 110* General Chemistry	(3)
CHM 110 General Chemistry Lab	(1)	CHM 110 General Chemistry Lab	(1)
MATH 100* College Algebra	(3)	MATH 100* College Algebra	(3)
~~MATH 205* Gen. Calc. & Linear Alg.~~	~~(3)~~	Statistics elective	(3)
~~Computer Science elective~~	~~(3)~~		
Statistics elective	(3)		
Communications and Interpersonal Relations	(17 hours)	**Communications and Interpersonal Relations**	(17 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication electives	(9)	Communication electives	(9)
Internship	(~~6~~ hours)	**Internship**	(7 hours)
~~HORT 190* Pre-Internship in Hort~~.	(1)	HORT 190 Preparing for your Horticulture Career	(1)
HORT 590* Hort. Internship (golf facility)	(~~2~~)	HORT 590* Hort. Internship (golf facility)	(3)
Plus a second internship as listed below:		Plus a second internship as listed below:	
HORT 590* Horticulture Internship	(3)	HORT 590* Horticulture Internship	(3)
OR		OR	
HMD 495* Golf Course Internship in Hospitality Management	(3)	HMD 495* Golf Course Internship in Hospitality Management	(3)
HORT 599 The Hort. Professional	(0)	HORT 599 The Hort. Professional	(0)
Humanities and Social Sciences	(12-14 hours)	**Humanities and Social Sciences**	(12-14 hours)
ECON 110* Prin. of Macroeconomics	(3)	ECON 110* Prin. of Macroeconomics	(3)

ECON 120* Prin. of Microeconomics (3)	ECON 120* Prin. of Microeconomics (3)
OR	OR
AGEC 120* Agric. Econ. & Agribus. (3)	AGEC 120* Agric. Econ. & Agribus. (3)
Foreign Language elective (3-5)	Foreign Language elective (3-5)
Humanities and Soc. Sci. electives (3)	Humanities and Soc. Sci. electives (3)
Business Management (15 hours)	**Business Management** (15 hours)
ACCTG 231* Accounting for Bus. Op. (3)	ACCTG 231* Accounting for Bus. Op. (3)
ACCTG 241* Accouting for Inv. & Fin. (3)	ACCTG 241* Accouting for Inv. & Fin. (3)
MANGT 420* Management Concepts (3)	MANGT 420* Management Concepts (3)
MKTG 400* Marketing (3)	MKTG 400* Marketing (3)
Business Management elective (3)	Business Management elective (3)
Turf Management Specialization (~~37-39~~ hours)	**Turf Management Specialization** (41-42 hours)
AGRON 305* Soils (4)	AGRON 305* Soils (4)
AGRON 375* Soil Fertility (3)	AGRON 375* Soil Fertility (3)
HORT 201* Prin. of Hort. Science (4)	HORT 201* Prin. of Hort. Science (4)
HORT 515* Basic Turfgrass Culture (2)	HORT 350 Plant Propagation (3)
HORT 516* Int. Cult. Golf/Sports Turf (1)	Hort 374 Landscape Plants I (3)
HORT 517 Golf & Sports Turf Op. (3)	HORT 515* Basic Turfgrass Culture (2)
HORT 582 Foundations of Hort. Pest Management (1)	HORT 516* Int. Cult. Golf/Sports Turf (1)
HORT 587* Turfgrass Disease Mgt. (1)	HORT 517 Golf & Sports Turf Op. (3)
HORT 588* Turfgrass Weed Mgt. (1)	HORT 550 Landscape Irrig. Systems (3)
ENTOM 589* Turfgrass Insect Mgt. (1)	HORT 582 Foundations of Hort. Pest Mgt. (1)
HORT 706 Turfgrass Science (3)	HORT 587* Turfgrass Disease Mgt. (1)

PLPTH 500* Prin. of Plant Pathology (3)	HORT 588* Turfgrass Weed Mgt. (1)
Environmental elective (3)	HORT 706 Turfgrass Science (3)
Horticulture elective (2-3)	ENTOM 589* Turfgrass Insect Mgt. (1)
~~Irrigation elective (2-3)~~	PLPTH 500* Prin. of Plant Pathology (3)
~~Plant Material elective (3)~~	Environmental elective (3)
	Horticulture elective (2-3)
Hospitality electives (~~12~~ hours)	
Select ~~12~~ hours from the following list:	**Hospitality electives** (9 hours)
~~FDSCI 302 Intro. to Food Science (3)~~	Select 9 hours from the following list:
~~FDSCI 690 Prin. of HAACP (2)~~	HMD 220 Environ. Issues in Hosp. (3)
HMD 220 Environ. Issues in Hosp. (3)	HMD 340 Cont. Issues in Cont. Bev. (2)
HMD 340 Cont. Issues in Cont. Bev. (2)	HMD 341 Prin. of Food Prod. Mgt. (3)
HMD 341 Prin. of Food Prod. Mgt. (3)	HMD 421 Hospitality Service Systems (3)
HMD 421 Hospitality Service Systems (3)	HMD 331 Professional Club Mgt. (3)
HMD 331 Professional Club Mgt. (3)	HMD 424 Hosp. Marketing & Sales (3)
	HMD 621 Hospitality Law (3)
Free electives **(~~7~~ ~~11~~ hours)**	**Free electives** **(8-11 hours)**
Total Credit Hours **(~~130~~ hours)**	**Total Credit Hours** **(126 hours)**
Electives From Which to Choose:	**Electives From Which to Choose:**

Business Management Electives **3**	
AGEC 202* Small Business Operations 3	**Business Management Electives** **3**
~~AGEC 513* Agricultural Finance 3~~	AGEC 202* Small Business Operations 3
FINAN 450* Principles of Finance 3	FINAN 450* Principles of Finance 3
MANGT 390* Business Law 1 3	MANGT 390* Business Law 1 3
	ENTRP 340* Intro. to Entrepreneurship 3
	FINAN 460* Insurance 3
	MKTG 450* Consumer Behavior 3
Communications Electives **9**	
AGCOM 400 Agric. Business Comm. 3	**Communications Electives** **9**
ENGL 300 Expository Writing III 3	AGCOM 400 Agric. Business Comm. 3
ENGL 516 Written Comm. for the Sci. 3	ENGL 300 Expository Writing III 3
MKTG 542* Personal Selling & Sales Mgt. 3	ENGL 516 Written Comm. for the Sci. 3
COMM 311* Bus. and Prof. Speaking 3	MKTG 542* Personal Selling & Sales Mgt. 3
COMM 321* Public Speaking II 3	COMM 311* Bus. and Prof. Speaking 3
COMM 322* Interpersonal Comm. 3 COMM 323* Nonverbal Comm. 3 COMM 325* Argumentation & Debate 3 COMM 326* Small Group Disc. Meth. 3	COMM 321* Public Speaking II 3 COMM 322* Interpersonal Comm. 3 COMM 323* Nonverbal Comm. 3 COMM 325* Argumentation & Debate 3 COMM 326* Small Group Disc. Meth. 3
~~**Computer Science Elective** **3**~~ ~~AGRON 455 Computer Apps. in Agronomy 3~~ ~~Or choose any 3 of the following courses:~~ ~~CIS 101* Intro. Information Tech 1~~ ~~CIS 102* Intro. Spreadsheet Apps 1~~ ~~CIS 103* Intro. Database Apps 1~~ ~~CIS 104 Intro. Wordprocessing 1~~	**Environmental Elective** **3** AGRON 335* Environmental Quality 3 PMC 275* Intro. to Natural Resource Mgt. 3 HORT 405* Water Iss./Lawn & Landscape 3 LAR 322* Env. Issues & Ethics 3
Environmental Elective **3** AGRON 335* Environmental Quality 3 ~~FOR 375* Intro. to Natural Resource Mgt. 3~~	
Foreign Language Elective **3-5** Any introductory (or higher) course in a Modern Language. ~~Preferred course:~~ SPAN 161* Spanish 1 5	**Foreign Language Elective** **3-5** Any introductory (or higher) course in a Modern Language. One of the following is preferred: SPAN 161* Spanish 1 5

Horticulture Elective	**2-3**
AGRON 746 Physical Properties of Soil	3
~~HORT 374 Landscape Plants I~~	~~3~~
HORT 375 ~~Landscape Plants~~ II	3
HORT 405* Water Issues in the Lawn & Landscape	3
HORT 508* ~~Landscape Maintenance~~	~~2~~
HORT 585* Arboriculture	3
HORT ~~690~~* Sustainable Agriculture	2
PLPTH 590* Landscape Diseases	2
~~Irrigation Elective~~	**~~2-3~~**
~~ATM 653 Water Mgt. and Irr. Systems~~	~~2~~
~~HORT 550 Landscape Irrigation Systems~~	~~3~~
~~Plant Material Elective~~	**~~3~~**
~~HORT 374 Landscape Plants I~~	~~3~~
~~HORT 375 Landscape Plants II~~	~~3~~
Statistics Elective	**3**
STAT 325* Intro. to Statistics	3
STAT 340* Biometrics I	3
STAT 350* Bus. and Economic Statistics I	3

SPAN 162* Spanish 2	**5**
SPAN 261* Spanish 3	**5**
SPAN 361* Spanish 4	**4**
Horticulture Elective	**2-3**
AGRON 746 Physical Properties of Soil	3
HORT 375 Landscape Plants II	3
HORT 405* Water Iss./Lawn & Landscape	3
HORT 508* Sust. Landscape Maint. Pract.	3
HORT 585* Arboriculture	3
HORT 790* Sustainable Agriculture	2
PLPTH 590* Landscape Diseases	2
Statistics Elective	**3**
STAT 325* Intro. to Statistics	3
STAT 340* Biometrics I	3
STAT 350* Bus. and Economic Statistics I	3

RATIONALE: The Golf Course Management Option and the Sports Turf Option are being revised and combined into a single option that is renamed the Golf Course and Sports Turf Operations Option. This curriculum revision responds to industry, condenses and modernizes our programs in golf course and sports turf operations, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department include programs whose course enrollments may be affected by deletion from requirements or shifting from "Required" to "Elective." Departments offering FDSCI, and AGEC 513 have been contacted.

EFFECTIVE DATE: Fall 2015

B.S. in Agriculture: Horticulture Major: Landscape Horticulture Option

FROM: ~~Landscape Design~~		**TO: Landscape Horticulture**	
Communications (14-16 credit hours)		**Communications**	(14-16 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication elective	(3)	Communication elective	(3)
Foreign Language elective	(3-5)	Foreign Language elective	(3-5)
		Humanities/Social Sciences Electives	(6 hours)
Humanities/Social Sciences Electives	(6 hours)	Humanities/Social Sci. elective	(3)
~~GEOG 100* – World Regional Geography~~	~~(3)~~	Humanities/Social Sci. elective	(3)
~~or~~			
~~PSYCH 110* – General Psychology~~	~~(3)~~		
~~or~~			
~~SOCIO 211* – Intro to Sociology~~	~~(3)~~	**Biological/Quantitative Sciences**	(22-23 hours)
~~Humanities elective~~	~~(3)~~	BIOCHM 265* - Intro. Organic Biochemistry	(5)
		BIOL 198* - Principles of Biology	(4)
~~**Quantitative Sciences**~~	(~~16~~ hours)	BIOL 500 – Plant Physiology	(3-4)
CHM 110* - General Chemistry	(3)	CHM 110* - General Chemistry	(3)
and		and	
CHM 111* - General Chemistry Laboratory	(1)	CHM 111* - General Chemistry Laboratory	(1)
MATH 100* – College Algebra	(3)	MATH 100* – College Algebra	(3)
Math/Physics Elective	(3)	Math/Physics/Statistics Elective	(3)
~~Statistics Elective~~	~~(3)~~		
~~Surveying Elective~~	~~(3)~~		
		Econ./Business Electives	(15 hours)
~~**Agric./Biological Sciences**~~	(~~21-22~~ hours)	ACCTG 231* – Accounting for Bus. Opers.	(3)
AGRON 305* - Soils	(4)	ECON 110* – Princ. of Macroeconomics	(3)
BIOL 198* - Principles of Biology	(4)	or	
HORT 201* – Princ. of Horticulture Science	(4)	ECON 120* – Princ. of Microeconomics	(3)
PLPTH 500* – Princ. Plant Pathology	(3)	Econ./Business electives	(9)
~~Biology elective~~	~~(3-4)~~		
~~Entomology elective~~	~~(3)~~		
		Horticulture Core Requirements	(28 hours)
Econ./Business Electives	(15 hours)	AGRON 305* - Soils	(4)
ACCTG 231* – Accounting for Bus. Opers.	(3)	HORT 190 Preparing for your Horticulture Career	(1)
ECON 110* – Princ. of Macroeconomics	(3)	HORT 201* – Princ. of Horticulture Science	(4)
or		HORT 350 – Plant Propagation	(3)
ECON 120* – Princ. of Microeconomics	(3)	HORT 374 – Landscape Plants I	(3)
Econ./Business electives	(9)	Entomology elective	(3)
		Environmental Sci./Biology Elective	(3)
~~**Horticulture Requirement**~~	~~(12 – 15 hours)~~	HORT 582 – Foundations of Hort. Pest Mgt.	(1)
~~HORT 190* – Pre-Internship in Horticulture~~	~~(1)~~	HORT 590 – Hort. Internship	(3)
HORT 350 – Plant Propagation	(3)	HORT 599 – The Horticultural Professional	(0)
~~HORT 520* – Fruit Production~~	~~(3)~~	PLPTH 500* – Princ. Plant Pathology	(3)
~~or~~			
~~HORT 560* – Vegetable Crop Production~~	~~(3)~~	**Landscape Core Requirements**	(20 hours)
HORT 590* – Hort. Internship	~~(2-5)~~	HORT 375 – Landscape Plants II	(3)
HORT 599 – The Horticultural Professional	(~~0~~)	HORT 515* – Basic Turfgrass Culture	(2)
Environmental Science elective	(3)	HORT 508* – Sustainable Land. Maint. Pract.	(2)
		HORT 550 – Landscape Irrigation Systems	(3)
		HORT 551 – The Business of Landscape Contr.	(1)
		HORT 552 – Hort. Landscape Construction	(1)
		HORT 585* – Arboriculture	(3)

~~**Landscape Design Specialization**~~	
HORT 275* – Horticultural Design I	(3)
HORT 374 – ~~Landscape Plants I~~	(3)
HORT 375 – ~~Landscape Plants II~~	(3)
HORT 508* – ~~Landscape Maintenance~~	~~(2)~~
~~HORT 510 – Horticultural Design II~~	~~(3)~~
HORT 515* – Basic Turfgrass Culture	(2)
HORT 551 – The Business of Landscape Contr.	(1)
HORT 552 – Hort. Landscape Construction	(1)
HORT 582 – Foundations of Hort. Pest Mgt.	(1)
Pest Management elective	(2)
Specialization electives (5-7)	
Free Electives	**(~~9~~ 17 credit hours)**
Total Credits for Graduation	**(~~130~~ credit hours)**

DESIGNATED ELECTIVES
(NOTE: Confer with advisor to select appropriate courses.)

Econ./Business Electives **9 hrs.**
Any ACCTG course 200 or above excl. ACCTG 231
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above

HORT 587, 588, or 589 Pest Mgmt. elective	(2)
or	
PLPTH 590 – Landscape Diseases	(2)
Plus, select one of the following:	
HORT 275* – Horticultural Design 1	(3)
HORT 520* – Fruit Production	(3)
HORT 560* – Vegetable Crop Production	(3)
HORT 570* – Greenhouse Ops. Management	(3)
Specialization Electives	(16-19 hours)
Select 16-19 hours from the list below.	
AGRON 330* – Weed Science	(3)
AGRON 375 – Soil Fertility	(3)
HORT 210 – Concepts of Floral Design	(3)
HORT 275* – Horticultural Design 1	(3)
HORT 325* – Intro. Organic Farming	(2)
HORT 405* – Water Issues/Lawn & Landscape	(3)
HORT 510 – Horticultural Design 2	(3)
HORT 516 – Intensive Cult. Golf & Sports Turf	(3)
HORT 520* – Fruit Production	(3)
HORT 545 – Comp. Apps. Hort. Design	(3)
HORT 640 – Prb./Landscape Irrigation Design	(2)
HORT 560* – Vegetable Crop Production	(3)
HORT 570* – Greenhouse Ops. Management	(3)
HORT 575* – Nursery Management	(3)
HORT 587, 588, or 589 Pest Mgmt. Elective	(2)
HORT 600* – Herbaceous Crop Production	(3)
HORT 625* – Floral Crop Production/Handling	(2)
HORT 706 – Turfgrass Science	(3)
HORT 710 – Plant Cell, Tissue & Organ Cult.	(3)
HORT 790* – Sustainable Agriculture	(2)
HORT 791* – Urban Agriculture	(2)
PLPTH 590 – Landscape Diseases	(2)
Surveying elective:	
CE 212 – Elementary Surveying Engineering	(3)
or	
ATM 558 – Soil Erosion, Sediment & Pollution Control	(3)
Free Electives	**(0-5 credit hours)**
Total Credits for Graduation	**(126 credit hours)**

DESIGNATED ELECTIVES
(NOTE: Confer with advisor to select appropriate courses.)

Econ./Business Electives **9 hrs.**
Any ACCTG course 200 or above excl. ACCTG 231
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above

Any MANGT course 300 or above MC 120* Principles of Advertising 3 (F,S) MC 180 Fund. of Public Relations 3 (F,S) Any MKTG course 300 or above Any ECON course 300 or above	Any MANGT course 300 or above MC 120* Principles of Advertising 3 (F,S) MC 180 Fund. of Public Relations 3 (F,S) Any MKTG course 300 or above Any ECON course 300 or above
Communications Elective 3 hrs. AGCOM 400 Ag Bus. Comm. 3 (F,S) ENGL 300 Expository Writing III 3 (F,S) ENGL 516 Written Comm. Sci. 3 (F,S) COMM 311* Bus. Prof. Speaking 3 (F,S) COMM 321* Public Speaking II 3 (F,S) COMM 322* Interpersonal Comm. 3 (F,S,U) COMM 323* Nonverbal Comm. 3 (F,S) COMM 325* Argumentation and Debate 3 (S) COMM 326* Small Group Discussion Methods 3 (F,S,U)	**Communications Elective 3 hrs.** AGCOM 400 Ag Bus. Comm. 3 (F,S) ENGL 300 Expository Writing III 3 (F,S) ENGL 516 Written Comm. Sci. 3 (F,S) COMM 311* Bus. Prof. Speaking 3 (F,S) COMM 321* Public Speaking II 3 (F,S) COMM 322* Interpersonal Comm. 3 (F,S,U) COMM 323* Nonverbal Comm. 3 (F,S) COMM 325* Argumentation and Debate 3 (S) COMM 326* Small Group Discussion Methods 3 (F,S,U)
Entomology Elective 3 hrs. ENTOM 300* Economic Entomology 3 (S) ENTOM 312* General Entomology 3 (F) ENTOM 320* Horticultural Entomology 3 (F)	**Entomology Elective 3 hrs.** ENTOM 300* Economic Entomology 3 (S) ENTOM 312* General Entomology 3 (F) ENTOM 320* Horticultural Entomology 3 (F)
Environmental Science Elective 3 hrs. AGRON 335* Environmental Quality 3 (F) ~~FOR 375~~* Intro. Natural Res. Mgt. 3 (F) LAR 322* Environ. Issues & Ethics 3 (S)	**Environmental Science/Biology Elective 3 hrs.** AGRON 335* Environmental Quality 3 (F) PMC 275* Intro. Natural Res. Mgt. 3 (F) LAR 322* Environ. Issues & Ethics 3 (S) Any Biology course above 300 level
Foreign Language Elective 3-5 hrs. Any introductory (or higher) course in a Modern Language. Preferred course: SPAN 161* Spanish I 5 (F,S,U)	**Foreign Language Elective 3-5 hrs.** Any introductory (or higher) course in a Modern Language. Preferred course: SPAN 161* Spanish I 5 (F,S,U)
Math/Physics Elective 3 hrs. MATH 150* Plane Trigonometry 3 (F,S,U) MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U) PHYS 101* The Physical World I 3 (F,S,U)	**Math/Physics Elective 3 hrs.** MATH 150* Plane Trigonometry 3 (F,S,U) MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U) PHYS 101* The Physical World I 3 (F,S,U)
Plant Materials Elective 9 hrs. HORT 374 Landscape Plants I 3 (F) HORT 375 Landscape Plants II 3 (S) ~~HORT 377 Plants of the Interior Environ. 3 (S)~~	**Plant Materials Elective 9 hrs.** HORT 374 Landscape Plants I 3 (F) HORT 375 Landscape Plants II 3 (S)
Statistics Elective 3 hrs. STAT 325* (3) Introduction to Statistics (F,S) STAT 340* (3) Biometrics I (F,S,U) STAT 350* (3) Bus. & Econ. Stat. I (S)	**Statistics Elective 3 hrs.** STAT 325* (3) Introduction to Statistics (F,S) STAT 340* (3) Biometrics I (F,S,U) STAT 350* (3) Bus. & Econ. Stat. I (S)
* **Approved K-State 8/General Education Courses**	* **Approved K-State 8/General Education Courses**

RATIONALE: The Landscape Design Option and the Landscape Management Option are being revised and combined into a single option that is renamed the Landscape Horticulture Option. This curriculum revision responds to industry, condenses and modernizes our programs in landscape horticulture, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department include programs whose course enrollments may be affected by deletion from requirements or shifting from "Required" to "Elective." This includes courses that we are now adding to the "Required." Departments including Biology (BIOL 500), Biochemistry (BIOCHM 265), and Ag. Tech. Mgmt. (ATM 558) have been contacted.

EFFECTIVE DATE: Fall 2015

B.S. in Agriculture: Landscape Horticulture Specialization

FROM: ~~Landscape Management~~		**TO: Landscape Horticulture**	
Communications	(14-16 hours)	**Communications**	(14-16 hours)
ENGL 100 - Expository Writing I	(3)	COMM 105 - Public Speaking IA	(2)
ENGL 200 - Expository Writing II	(3)	ENGL 100 - Expository Writing I	(3)
COMM 105 - Public Speaking IA	(2)	ENGL 200 - Expository Writing II	(3)
Communication elective	(3)	Communication elective	(3)
Foreign Language elective	(3-5)	Foreign Language elective	(3-5)
Humanities/Social Sciences Electives	(6 hours)	**Humanities/Social Sciences Electives**	(6 hours)
~~GEOG 100* – World Regional Geography~~	~~(3)~~	Humanities/Social Sci. elective	(3)
~~or~~		Humanities/Social Sci. elective	(3)
~~PSYCH 110* – General Psychology~~	~~(3)~~		
~~or~~		**Biological/Quantitative Sciences**	(22-23 hours)
~~SOCIO 211* – Intro to Sociology~~	~~(3)~~	BIOCHM 265* - Intro. Organic Biochemistry	(5)
~~Humanities elective~~	~~(3)~~	BIOL 198* - Principles of Biology	(4)
		BIOL 500 – Plant Physiology	(3-4)
~~**Quantitative Sciences**~~	(~~16~~ hours)	CHM 110* - General Chemistry	(3)
CHM 110* - General Chemistry	(3)	and	
and		CHM 111* - General Chemistry Laboratory	(1)
CHM 111* - General Chemistry Laboratory	(1)	MATH 100* – College Algebra	(3)
MATH 100* – College Algebra	(3)	Math/Physics/Statistics Elective	(3)
Math/Physics Elective	(3)		
~~Statistics Elective~~	~~(3)~~	**Econ./Business Electives**	(15 hours)
~~Surveying Elective~~	~~(3)~~	ACCTG 231* – Accounting for Bus. Opers.	(3)
		ECON 110* – Princ. of Macroeconomics	(3)
~~**Agric./Biological Sciences**~~	(~~21-22~~ hours)	or	
AGRON 305* - Soils	(4)	ECON 120* – Princ. of Microeconomics	(3)
BIOL 198* - Principles of Biology	(4)	Econ./Business electives	(9)
HORT 201* – Princ. of Horticulture Science	(4)		
PLPTH 500* – Princ. Plant Pathology	(3)	**Horticulture Core Requirements**	(28 hours)
Biology elective	(3-4)	AGRON 305* - Soils	(4)
Entomology elective	(3)	HORT 190 Preparing for your Horticulture Career	(1)

Econ./Business Electives (15 hours)
ACCTG 231* – Accounting for Bus. Opers. (3)
ECON 110* – Princ. of Macroeconomics (3)
or
ECON 120* – Princ. of Microeconomics (3)
Econ./Business electives (9)

~~**Horticulture Requirement** (12 – 15 hours)~~
~~HORT 190* – Pre-Internship in Horticulture~~ (1)
HORT 350 – Plant Propagation (3)
~~HORT 520* – Fruit Production (3)~~
~~or~~
~~HORT 560* – Vegetable Crop Production (3)~~
HORT 590* – Hort. Internship ~~(2-5)~~
HORT 599 – The Horticultural Professional (~~0~~)
Environmental Science elective (3)

~~**Landscape Design Specialization**~~
HORT 275* – Horticultural Design I (3)
HORT 374 – ~~Landscape Plants I~~ (3)
HORT 375 – ~~Landscape Plants II~~ (3)
HORT 508* – ~~Landscape Maintenance (2)~~
~~HORT 510 – Horticultural Design II (3)~~
HORT 515* – Basic Turfgrass Culture (2)
HORT 551 – The Business of Landscape Contr. (1)
HORT 552 – Hort. Landscape Construction (1)
HORT 582 – Foundations of Hort. Pest Mgt. (1)
Pest Management elective (2)
Specialization electives (5-7)
Free Electives (~~9-17~~ credit hours)
Total Credits for Graduation (~~130~~ credit hours)

DESIGNATED ELECTIVES
(NOTE: Confer with advisor to select appropriate courses.)
Econ./Business Electives 9 hrs
Any ACCTG course 200 or above excl. ACCTG 231
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above
Any MANGT course 300 or above
MC 120* Principles of Advertising 3 (F,S)
MC 180 Fund. of Public Relations 3 (F,S)
Any MKTG course 300 or above
Any ECON course 300 or above
Biology Elective 3-4 hrs
Any biology course numbered 300 or higher.
Communications Elective 3 hrs
AGCOM 400 Ag Bus. Comm. 3 (F,S)
ENGL 300 Expository Writing III 3 (F,S)

HORT 201* – Princ. of Horticulture Science (4)
HORT 350 – Plant Propagation (3)
HORT 374 – Landscape Plants I (3)
Entomology elective (3)
Environmental Sci./Biology Elective (3)
HORT 582 – Foundations of Hort. Pest Mgt. (1)
HORT 590 – Hort. Internship (3)
HORT 599 – The Horticultural Professional (0)
PLPTH 500* – Princ. Plant Pathology (3)

Landscape Core Requirements (20 hours)
HORT 375 – Landscape Plants II (3)
HORT 515* – Basic Turfgrass Culture (2)
HORT 508* – Sustainable Land. Maint. Pract. (2)
HORT 550 – Landscape Irrigation Systems (3)
HORT 551 – The Business of Landscape Contr. (1)
HORT 552 – Hort. Landscape Construction (1)
HORT 585* – Arboriculture (3)
HORT 587, 588, or 589 Pest Mgmt. elective (2)
or
PLPTH 590 – Landscape Diseases (2)
Plus, select one of the following:

HORT 275* – Horticultural Design 1 (3)
HORT 520* – Fruit Production (3)
HORT 560* – Vegetable Crop Production (3)
HORT 570* – Greenhouse Ops. Management (3)

Specialization Electives (16-19 hours)
Select 16-19 hours from the list below.
AGRON 330* – Weed Science (3)
AGRON 375 – Soil Fertility (3)
HORT 210 – Concepts of Floral Design (3)
HORT 275* – Horticultural Design 1 (3)
HORT 325* – Intro. Organic Farming (2)
HORT 390 – Horticulture Topics (1-3)
OR
HORT 640 Horticultural Problems (1-3)
Either HORT 390 or 640 may be used for up to a total of 3 credit hours
HORT 405* – Water Issues/Lawn & Landscape (3)
HORT 510 – Horticultural Design 2 (3)
HORT 516 – Intensive Cult. Golf & Sports Turf (3)
HORT 520* – Fruit Production (3)
HORT 545 – Comp. Apps. Hort. Design (3)
HORT 640 – Prb./Landscape Irrigation Design (2)
HORT 560* – Vegetable Crop Production (3)
HORT 570* – Greenhouse Ops. Management (3)
HORT 575* – Nursery Management (3)
HORT 587, 588, or 589 Pest Mgmt. Elective (2)
HORT 600* – Herbaceous Crop Production (3)
HORT 625* – Floral Crop Production/Handling (2)
HORT 706 – Turfgrass Science (3)

ENGL 516 Written Comm. Sci. 3 (F,S)
COMM 311* Bus. Prof. Speaking 3 (F,S)
COMM 321* Public Speaking II 3 (F,S)
COMM 322* Interpersonal Comm. 3 (F,S,U)
COMM 323* Nonverbal Comm. 3 (F,S)
COMM 325* Argumentation and Debate 3 (S)
COMM 326* Small Group Discussion Methods 3 (F,S.U)

Entomology Elective 3 hrs
ENTOM 300* Economic Entomology 3 (S)
ENTOM 312* General Entomology 3 (F)
ENTOM 320* Horticultural Entomology 3 (F)

Environmental Science Elective 3 hrs
AGRON 335* Environmental Quality 3 (F)
PMC 375* Intro. Natural Res. Mgt. 3 (F)
LAR 322* Environ. Iss. & Ethics 3 (S)

Foreign Language Elective 3 hrs
Any introductory (or higher) course in a Modern Language. Preferred course:
SPAN 161* Spanish I 5 (F,S,U)

Math/Physics Elective 3 hrs
MATH 150* Plane Trigonometry 3 (F,S,U)
MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U)
PHYS 101* The Physical World I 3 (F,S,U)

Pest Management Elective 2 hrs
ENTOM 589* Turfgrass Insects & Their Mgt. 1 (F)
HORT 587* Turfgrass Diseases & Their Mgt. 1 (F)
HORT 588* Turfgrass Weeds & Their Mgt. 1 (F)
PLPTH 590* Landscape Diseases 2 (S)

*** Approved K-State 8/General Education Courses**

HORT 710 – Plant Cell, Tissue & Organ Cult. (3)
HORT 790* – Sustainable Agriculture (2)
HORT 791* – Urban Agriculture (2)
PLPTH 590 – Landscape Diseases (2)

Surveying elective:
CE 212 – Elementary Surveying Engineering (3)
or
ATM 558 – Soil Erosion, Sediment & Pollution Control (3)

Free Electives (0-5 credit hours)

Total Credits for Graduation (126 credit hours)

DESIGNATED ELECTIVES
(NOTE: Confer with advisor to select appropriate courses.)

Econ./Business Electives 9 hrs
Any ACCTG course 200 or above excl. ACCTG 231
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above
Any MANGT course 300 or above
MC 120* Principles of Advertising 3 (F,S)
MC 180 Fund. of Public Relations 3 (F,S)
Any MKTG course 300 or above
Any ECON course 300 or above

Biology Elective 3-4 hrs
Any biology course numbered 300 or higher.

Communications Elective 3 hrs
AGCOM 400 Ag Bus. Comm. 3 (F,S)
ENGL 300 Expository Writing III 3 (F,S)
ENGL 516 Written Comm. Sci. 3 (F,S)
COMM 311* Bus. Prof. Speaking 3 (F,S)
COMM 321* Public Speaking II 3 (F,S)
COMM 322* Interpersonal Comm. 3 (F,S,U)
COMM 323* Nonverbal Comm. 3 (F,S)
COMM 325* Argumentation and Debate 3 (S)
COMM 326* Small Group Discussion Methods 3 (F,S.U)

Entomology Elective 3 hrs
ENTOM 300* Economic Entomology 3 (S)
ENTOM 312* General Entomology 3 (F)
ENTOM 320* Horticultural Entomology 3 (F)

Environmental Science Elective 3 hrs
AGRON 335* Environmental Quality 3 (F)
PMC 375* Intro. Natural Res. Mgt. 3 (F)
LAR 322* Environ. Iss. & Ethics 3 (S)

Foreign Language Elective 3 hrs
Any introductory (or higher) course in a Modern Language. Preferred course:
SPAN 161* Spanish I 5 (F,S,U)

Math/Physics Elective 3 hrs

	MATH 150* Plane Trigonometry 3 (F,S,U) MATH 205* Gen. Calc. & Lin. Algebra 3 (F,S,U) PHYS 101* The Physical World I 3 (F,S,U) **Pest Management Elective 2 hrs** ENTOM 589* Turfgrass Insects & Their Mgt. 1 (F) HORT 587* Turfgrass Diseases & Their Mgt. 1 (F) HORT 588* Turfgrass Weeds & Their Mgt. 1 (F) PLPTH 590* Landscape Diseases 2 (S) *** Approved K-State 8/General Education Courses**

RATIONALE: This curriculum revision responds to industry, condenses and modernizes our programs in landscape horticulture, provides more latitude within the specialization and updates course titles and numbers. Another goal is to simplify advising in the major.

IMPACT: Impacts outside the department include programs whose course enrollments may be affected by deletion from requirements or shifting from "Required" to "Elective." This includes courses that we are now adding to the "Required." Departments including Biology (BIOL 500), Biochemistry (BIOCHM 265), and Ag. Tech. Mgmt. (ATM 558) have been contacted.

EFFECTIVE DATE: Fall 2015

B.S. in Agriculture: Park Management and Conservation Major

FROM:				TO:			
GENERAL REQUIREMENTS			**45 hours**	**GENERAL REQUIREMENTS**			**45 hours**
Communications:			(12 hours)	Communications:			(12 hours)
COMM	106	(3)	Public Speaking I	COMM	106	(3)	Public Speaking I
COMM	311	(3)	Business & Prof. Speaking	COMM	311	(3)	Business & Prof. Speaking
ENGL	100	(3)	Expository Writing I	ENGL	100	(3)	Expository Writing I
ENGL	200	(3)	Expository Writing II	ENGL	200	(3)	Expository Writing II
Natural Sciences:			(15 hours)	Natural Sciences:			(15 hours)
BIOL	198*	(4)	Prin. of Biology	BIOL	198*	(4)	Prin. of Biology
CHM	110*	(3)	General Chemistry	CHM	110*	(3)	General Chemistry
CHM	111*	(1)	General Chemistry Lab	CHM	111*	(1)	General Chemistry Lab
GEOL	100*	(3)	Earth in Action	GEOL	100*	(3)	Earth in Action
AGRON	305*	(4)	Soils	AGRON	305*	(4)	Soils
Social Sciences:			(12 hours)	Social Sciences:			(12 hours)
ANTH	200*	(3)	Intro. to Cultural Anthropology	ANTH	200*	(3)	Intro. to Cultural Anthropology
ECON	110*	(3)	Principles of Macroeconomics	ECON	110*	(3)	Principles of Macroeconomics
or				or			
ECON	120*	(3)	Principles of Microeconomics	ECON	120*	(3)	Principles of Microeconomics
PSYCH	110*	(3)	General Psychology	PSYCH	110*	(3)	General Psychology
SOCIO	211*	(3)	Intro. to Sociology	SOCIO	211*	(3)	Intro. to Sociology
Mathematics & Statistics:			(6 hours)	Mathematics & Statistics:			(6 hours)
MATH	100*	(3)	College Algebra	MATH	100*	(3)	College Algebra
STAT	325*	(3)	Introduction to Statistics	STAT	325*	(3)	Introduction to Statistics
PROFESSIONAL CORE			**38 hours**	**PROFESSIONAL CORE**			**38 hours**
PMC	110	(1)	Environ. Ed. and Leadership	PMC	110	(1)	Environ. Ed. and Leadership
PMC	210	(3)	Intro. to Outdoor Recreation	PMC	210	(3)	Intro. to Outdoor Recreation
PMC	350	(1)	Parks & Recreation Practicum	PMC	350	(1)	Parks & Recreation Practicum
PMC	275	(3)	Intro to Natural Resource Mgt.	PMC	275	(3)	Intro to Natural Resource Mgmt.
PMC	330	(3)	Dendrology	PMC	330	(3)	Dendrology
PMC	475	(3)	Natural Hist. for Park Managers	PMC	475	(3)	Natural Hist. for Park Managers
PMC	489*	(3)	Program & Event Planning	PMC	489*	(3)	Program & Event Planning
PMC	492	(6)	Internship in Parks & Rec.	PMC	492	(6)	Internship in Parks & Rec.
PMC	510	(3)	Forestry for Park Professionals	PMC	510	(3)	Forestry for Park Professionals
PMC	580	(4)	Park Ops & Facilities Mgmt.	PMC	580	(4)	Park Ops & Facilities Mgmt.
				PMC	620	(3)	Park Planning and Design
PMC	635*	(3)	Methods of Enviro. Interpretation	PMC	635*	(3)	Methods of Enviro. Interpretation
PMC	710	(3)	Natural Resource Based Tourism	PMC	710	(3)	Natural Resource Based Tourism
Choose 2 hours from the following:				Choose 2 hours from the following:			
PMC	112	(1)	Boat Safety and Navigation	PMC	112	(1)	Boat Safety and Navigation
PMC	113	(1)	Shooting Sports Certification	PMC	113	(1)	Shooting Sports Certification
PMC	114	(1)	KS Park and Wildlife	PMC	114	(1)	KS Park and Wildlife Regulations

Regulations PMC 115 (1) Adventure Challenge Certif. PMC 120 (1) Outdoor Recreation Certification	PMC 115 (1) Adventure Challenge Certif. PMC 116 (1) Certified Interpretive Guide PMC 120 (1) Outdoor Recreation Certification
SPECIALIZED COURSES 30 hours Choose 30 or more hours from the following:	**SPECIALIZED COURSES 30** hours Choose 30 or more hours from the following:
Business: (minor in Business) ACCTG 231* (3) Accounting for Business Ops. ACCTG 241* (3) Accounting for Invest. & Finan. FINAN 450* (3) Principles of Finance MANGT 420* (3) Management Concepts MKTG 400* (3) Introduction to Marketing STAT 350* (3) Business & Econ. Statistics I	**Business: (minor in Business)** ACCTG 231* (3) Accounting for Business Ops. ACCTG 241* (3) Accounting for Invest. & Finan. FINAN 450* (3) Principles of Finance MANGT 420* (3) Management Concepts MKTG 400* (3) Introduction to Marketing STAT 350* (3) Business & Econ. Statistics I
Communications: AGCOM 712 (3) Environmental Comm. COMM 320* (3) Theories of Human Comm. COMM 526* (3) Persuasion ENGL 465* (3) Intro. to Creative Nonfiction MC 110* (3) Mass Comm. in Society PMC 640 (3) Advanced Environ. Interpretation Any one Modern Language Course Any one Theatre Course	**Communications**: AGCOM 712 (3) Environmental Communications COMM 320* (3) Theories of Human Comm. COMM 526* (3) Persuasion ENGL 465* (3) Intro. to Creative Nonfiction MC 110* (3) Mass Comm. in Society PMC 640 (3) Advanced Environ. Interpretation Any one Modern Language Course Any one Theatre Course
Law Enforcement Ranger: ~~RRES 200 (9) Topics: Ranger Training Academy (NPS) NPS = National Park Service Certification~~ ~~**or**~~ ~~RRES 200 (12) Topics: Ranger Training Academy (NPS+POST) POST = Police Officers Standards Training~~	**Law Enforcement Ranger**: PMC 441 (12) Problems/ NPS Law Enforcement Academy PMC 441 (3) Problems/ NPS Police Officers Standards Training
Resource Management: PMC 575* (3) Water Mgmt. for Natural Resource Managers AGEC 525* (3) Natural Resource & Env. Econ. BIOL 222 (1) Field Ornithology BIOL 303 (3) Ecol. of Environmental Problems BIOL 504 (3) Plant Ecology ENTOM 312* (3) General Entomology GEOG 221* (4) Introductory Physical Geography GEOG 340* (3) Geography of Natural Resources GEOG 508* (4) Geographic Information Systems	**Resource Management**: PMC 575* (3) Water Mgmt. for Natural Resource Managers AGEC 525* (3) Natural Resource & Env. Econ. BIOL 222 (1) Field Ornithology BIOL 303 (3) Ecol. of Environmental Problems BIOL 504 (3) Plant Ecology ENTOM 312* (3) General Entomology GEOG 221* (4) Introductory Physical Geography GEOG 340* (3) Geography of Natural Resources GEOG 508* (4) Geographic Information Systems

GEOG	605	(3)	Remote Sensing of the Environ.
HORT	508*	(2)	Landscape Maintenance
HORT	515*	(2)	Basic Turfgrass Culture
HORT	585*	(3)	Arboriculture
PLPTH	500*	(3)	Principles of Plant Pathology
Social Sciences:			
PLAN	315*	(3)	Introduction to City Planning
GEOG	300*	(3)	Geography of Tourism
HIST	511*	(3)	Environmental History
MANGT	390*	(3)	Business Law I
POLSC	507*	(3)	Intro. to Public Administration
PSYCH	535*	(3)	Social Psychology
SOCIO	361*	(3)	Criminal Justice Systems
SOCIO	362*	(3)	Police and Society
SOCIO	460*	(3)	Youth and Crime
SOCIO	570*	(3)	Race and Ethnic Relations
SOCIO	561*	(3)	Criminology
HMD	230	(3)	Issues in Tourism

FREE ELECTIVES **7 hours**

Total Hours Required **120**

*Approved K-State 8/General Education Courses

GEOG	605	(3)	Remote Sensing of the Environ.
HORT	508*	(2)	Landscape Maintenance
HORT	515*	(2)	Basic Turfgrass Culture
HORT	585*	(3)	Arboriculture
PLPTH	500*	(3)	Principles of Plant Pathology
Social Sciences:			
PLAN	315*	(3)	Introduction to City Planning
GEOG	300*	(3)	Geography of Tourism
HIST	511*	(3)	Environmental History
MANGT	390*	(3)	Business Law I
POLSC	507*	(3)	Intro. to Public Administration
PSYCH	535*	(3)	Social Psychology
SOCIO	361*	(3)	Criminal Justice Systems
SOCIO	362*	(3)	Police and Society
SOCIO	460*	(3)	Youth and Crime
SOCIO	570*	(3)	Race and Ethnic Relations
SOCIO	561*	(3)	Criminology
HMD	230	(3)	Issues in Tourism

FREE ELECTIVES **7 hours**

Total Hours Required **120**

*Approved K-State 8/General Education Courses

RATIONALE: These changes simply update the curriculum with new courses pending their approval.

IMPACT: No impacts outside the department.

EFFECTIVE DATE: Spring 2015

College of Engineering (11-6-14)

Non-Expedited COURSE PROPOSALS -Courses Numbered 000-599

Architectural Engineering and Construction Science and Management

ADD:
New Course: ARE 295. Introduction to Building Systems (3). An introduction to building systems including: structural, electrical, mechanical, and plumbing. An emphasis will be made on the importance of these systems to the success of building function and operation. The course will not only expose the students to each system but the criticalness of integration between the systems as well as the architecture and construction of the facility.

Note: 3 hours recitation per week

Requisites:
Prerequisite: CNS 220

When Offered: Fall, Spring

Rationale: This is a new required course, early in the program, intended to introduce basic concepts related to building systems design within the context of architectural design and construction. Retention is a key component.

Impact: Internal to ARE/CNS

Effective Date: Fall 2016

ADD:

New Course: ARE 421. Plan Reading & Systems Communications (3). The integration of architectural, structural, mechanical, electrical and plumbing building systems, the impact of codes/standards on design, plan reading, and drawing creation.

Note: 9 hours lab per week

Requisites:
Prerequisite: CNS 321

When Offered: Fall, Spring

Rationale: This class provides an in depth study on the understanding of building construction documents and how they are to be read and understood, with a particular emphasis on the interconnectedness of the building systems supporting the architectural intent. The course lays the ground work for future design courses.

Impact: Internal to ARE/CNS

Effective Date: Spring 2018

ADD:

New Course: ARE 460. ARE Professional Practice (3). General business, management and contractual procedures in professional practice. Personal development of skills needed to enter and be accepted in industry today.

Note: 3 hours recitation per week

Requisites:
Prerequisite: Must be taken concurrent with ARE 551, ARE 552, ARE 553, and CE 537.

When Offered: Fall, Spring

Rationale: This is a new course designed for students entering the portion of the curriculum that contains the primary building systems courses. The course will focus on professional practice, professional contractual relationships and responsibilities, engineering ethics, economic analyses, and student preparation for internship opportunities and career paths.

Impact: Internal to ARE/CNS

Effective Date: Fall 2017

ADD:

New Course: ARE 521. Computer Aided Architectural Engineering (2). An introduction to the use of computer software for the design and integration of building systems. The course is intended to complement and enhance the content of the concurrent system courses (Mechanical II, Electrical II, and Structures II). The computer software used will represent the standard practices of the building construction industry.

Note: 4 hours lab per week

Requisites: None

When Offered: Fall, Spring

Rationale: This course will consolidate key aspects of computer aided design into one offering. Topics will include calculations, design, creation of drawings and the understanding of building informational modeling.

Impact: Internal to ARE/CNS

Effective Date: Spring 2018

ADD:

New Course: ARE 551. Electrical System 1 (3). An introduction and study of the basic human needs in lighting and lighting sources, and the basic concepts and components of building electrical distribution systems, including circuit design.

Note: 3 hours recitation per week

Requisites:
Prerequisite: PHYS 214. Must be taken concurrent with ARE 552, ARE 553, ARE 460, and CE 537.

When Offered: Fall, Spring

Rationale: The fundamental electrical design courses are being organizationally modified in order to present all of the building courses simultaneously. This represents the first required building electrical systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Fall 2017

ADD:

New Course: ARE 552. Mechanical Systems 1 (3). An introduction to building HVAC and plumbing system terminology, principles, and practices of design and layout specifically for applications of human comfort and safety.

Note: 3 hours recitation per week

Requisites:
Prerequisite: ME 513. Must be taken concurrent with ARE 552, ARE 553, ARE 460, and CE 537.

When Offered: Fall, Spring

Rationale: The fundamental mechanical and plumbing design courses are being organizationally modified in order to present all of the building courses simultaneously. This represents the first required building mechanical and plumbing systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Fall 2017

ADD:

New Course: ARE 553. Structures 1 (3). An introduction to building structural system terminology, principles, and practices of design and layout specifically for applications of buildings.

Note: 3 hours recitation per week

Requisites:
Prerequisite: CE 533. Must be taken concurrent with ARE 551, ARE 552, ARE 460, and CE 537.

When Offered: Fall, Spring

Rationale: The fundamental structural design courses are being organizationally modified in order to present all of the building systems course simultaneously. This represents the first required building structural systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Fall 2017

ADD:

New Course: ARE 561. Electrical Systems 2 (3). The study and application of luminaires, lighting systems design and control, circuit and utilization component design, and design of building electrical systems distribution and service equipment.

Note: 3 hours recitation per week

Requisites:
Prerequisite: ARE 551

When Offered: Fall, Spring

Rationale: The fundamental electrical design courses are being organizationally modified in order to present all of the building courses simultaneously. This represents the second required building electrical systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Spring 2018

ADD:

New Course: ARE 562. Mechanical Systems 2 (3). The study of building HVAC and plumbing system selection and application including load calculations, space coordination, system design and layout, and scheduling of equipment and materials.

Note: 3 hours recitation per week

Requisites:
Prerequisite: ARE 552

When Offered: Fall, Spring

Rationale: The fundamental mechanical and plumbing design courses are being organizationally modified in order to present all of the building courses simultaneously. This represents the second required building mechanical and plumbing systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Spring 2018

ADD:

New Course: ARE 563. Structures 2 (3). The study of timber, reinforced concrete, and steel building structural systems including analysis and design.

Note: 3 hours recitation per week

Requisites:
Prerequisite: ARE 553

When Offered: Fall, Spring

Rationale: The fundamental structural design courses are being organizationally modified in order to present all of the building systems course simultaneously. This represents the second required building structural systems course in this new arrangement.

Impact: Internal to ARE/CNS

Effective Date: Spring 2018

ADD:

New Course: ARE 571. Systems Integration & Design (3). An analysis of structural, mechanical, electrical and plumbing systems design processes, budgeting and constructability that supports the Conceptual Design and Schematic Design phases of building projects.

Note: 2 hours recitation & 4 hours lab per week

Requisites:
Prequisites: ARE 421, ARE 521, ARE 561, ARE 562, ARE 563

When Offered: Fall, Spring

Rationale: This is a new course that will build upon the previous graphics and plan reading courses to ready students for the capstone course within an immersive, integrated design experience.

Impact: Internal to ARE/CNS

Effective Date: Fall 2018

Non-Expedited
CURRICULUM CHANGES

Architectural Engineering and Construction Science and Management

Architectural Engineering (http://catalog.k-state.edu/preview_program.php?catoid=13&poid=3454&returnto=1316)

Effective: Fall 2015

Rationale: The desire to change from a 5 year undergraduate degree to a 4 year undergraduate degree. Revisions include the deletion of some courses and adding/modifying courses, while still meeting ABET accreditation requirements.

Impact (i.e. if this impacts another unit): Geology, Geography, Chemistry, Biology, English, Civil Engineering, Mechanical Engineering and Electrical Engineering

First Semester	**First Semester**
ARE 020 ARE Seminar 0	ARE 020 ARE Seminar 0
CNS 110 History Bldg & Const 3	ARE 100 Arch Engg Orientation 2
MATH 220 Analy Geom & Calc 1 4	CNS 110 History Bldg & Const 3
CHM 210 Chemistry 1 4	CHM 210 Chemistry 1 4
ARE 100 Arch Engg Orientation 2	MATH 220 Analy Geom & Calc 1 4
Total Hours ..... ~~13~~	ECON 110 Prin of Macroecon 3
	Total Hours 16
Second Semester	**Second Semester**
ARE 020 ARE Seminar 0	ARE 020 ARE Seminar 0
CNS 220 Const Materials 2	CNS 210 Graphic Comm 1 1
MATH 221 Analy Geom & Calc 2 4	CNS 220 Const Materials 2
~~CHM 230 Chemistry 2 ..... 4~~	PHYS 213 Engg Phys 1 5
~~or BIOL 198 Biology .....4~~	MATH 221 Analy Geom & Calc 2 4
~~ECON 110 Princ of Macroecon ..... 3~~	COMM 105 Public Speaking 1A 2
~~ENGL 100 Expos Writing 1 ..... 3~~	Total Hours 14
Total Hours ..... ~~16~~	
Third Semester	**Third Semester**
ARE 020 ARE Seminar 0	ARE 020 ARE Seminar 0
~~PHYS 213 Physics 1 ..... 5~~	ARE 295 Bldg Sys Intro 3
MATH 222 Analy Geom & Calc 3 4	PHYS 214 Engg Phys 2 5
~~COMM 105 Public Speaking 1A ..... 2~~	CE 333 Statics 3
~~CNS 200 Cmptr Appl Engr/Cons ..... 2~~	MATH 222 Analy Geom & Calc 3 4
ENGL 200 Expos Writing 2 3	ENGL 200 Expos Writing 2 3
Total Hours ..... ~~16~~	Total Hours 18
Fourth Semester	**Fourth Semester**
ARE 020 ARE Seminar 0	ARE 020 ARE Seminar 0
~~CNS 210 Graph Comm I ..... 1~~	CNS 321 Graphic Comm 2 3
~~PHYS 214 Physics 2 ..... 5~~	Science Elective 3
MATH 240 Elem Diff Equations 4	ME 513 Thermo 1 3

~~CE 333 Statics ..... 3~~
~~ART 100 2D Design ..... 3~~
~~or ART 200 3D Design .....3~~
~~or ART 190 Drawing 1 .....3~~
~~Total Hours ..... 16~~

Fifth Semester
ARE 020 ARE Seminar 0
~~CNS 321 Graph Comm II ..... 3~~
~~ARE 532 Lighting Syst Dsg ..... 2~~
~~ME 513 Thermo 1 ..... 3~~
~~CE 533 Mech of Materials ..... 3~~
~~CE 534 Mech of Materials Lab ..... 1~~
~~IMSE 530 Engg Econ Analysis ..... 2~~
~~CE 212 Elem Survey Engg ..... 3~~
Total Hours ..... ~~17~~

Sixth Semester
ARE 020 ARE Seminar 0
~~ARE 310 Intro to AutoCAD ..... 1~~
~~CNS 325 Const Documents ..... 3~~
~~ECE 519 Electric Cir/Control ..... 4~~
~~ARE 534 Thermal Systems ..... 3~~
~~CE 537 Intro Struct Analy ..... 3~~
~~ARE 522 Load/Stab Structures ..... 2~~
~~STAT 490 Statics for Engg 1 ..... 1~~
Total Hours 17

Seventh Semester
ARE 020 ARE Seminar 0
~~ARE 411 Arch Engg Design ..... 3~~
~~ARE 533 Building Elec Sys ..... 3~~
~~ARE 537 Acoustic System ..... 2~~
~~ME 512 Dynamics ..... 3~~
~~ARE 528 Reinf Conc Structures ..... 3~~
ENGL 415 Writ Comm Engineers 3
Total Hours ..... ~~17~~

Eighth Semester
ARE 020 ARE Seminar 0
~~ARE 536 Plmg/Fire Prot Sys ..... 3~~
~~ARE 540 Bldg Mech Systems ..... 3~~
~~ME 571 Fluid Mechanics ..... 3~~
~~ARE 524 Steel Structures ..... 3~~
Human Soc Sci Elec 3
Total Hours ..... ~~15~~

~~Ninth Semester~~
~~ARE 020 ARE Seminar ..... 0~~
~~ARE 590 Integ Bldg System ..... 3~~
~~CE 522 Soil Mechanics ..... 3~~
~~Comp Elective ..... 3~~

CE 533 Mech of Mtls 3
CE 534 Mech of Mtls Lab 1
MATH 240 Elem Diff Eq 4
Total Hours 17

Fifth Semester
ARE 020 ARE Seminar 0
ARE 460 ARE Prof Practice 3
ARE 551 Elec Sys 1 3
ARE 552 Mech Sys 1 3
ARE 553 Structures 1 3
CE 537 Intro to Struct An 3
Total Hours 15

Sixth Semester
ARE 020 ARE Seminar 0
ARE 421 Plan Rdg & Sys Comm 3
ARE 521 Comp Aided ARE 2
ARE 561 Elec Sys 2 3
ARE 562 Mech Sys 2 3
ARE 563 Structures 2 3
ART 200 3D Drawing 3
or ART 180 2D Drawing
or ART 190 Drawing 1
Total Hours 17

Seventh Semester
ARE 020 ARE Seminar 0
ARE 571 Sys Integ & Design 3
Comp Elective 3
Comp Elective 3
Comp/Engg Elective 3
ENGL 415 Writ Comm Engineers 3
Total Hours 15

Eighth Semester
ARE 020 ARE Seminar 0
ARE 671 ARE Capstone 4
Engg Elective 3
Comp Elective 3
Engg Elective 3
H/SS Elective 3
Total Hours 16

~~Comp Elective ..... 3~~
~~Free Elective ..... 3~~
~~Total Hours ..... 15~~

~~**Tenth Semester**~~
~~ARE 020 ARE Seminar ..... 0~~
~~ARE 539 Arch Engg Mgt ..... 3~~
~~ARE 690 Senior Project ..... 3~~
~~Comp Elective ..... 3~~
~~Comp Elective ..... 3~~
~~H/SS ..... 3~~
~~Total Hours ..... 15~~

* Humanities and Social Science (H/SS) Electives are to be selected from the official College of Engineering H/SS course list.

** Complementary Electives are to be selected from the current approved Department list.

ADMISSION TO THE PREPROFESSIONAL PROGRAM

New students, including transfer students, should submit the standard KSU application form directly to the KSU Office of Admissions. The admission criteria are the same as those for the University and the College of Engineering.

Any student who has completed more than 15 credit hours at Kansas State University in any major outside the Department of Architectural Engineering and Construction Science may change majors into the Architectural Engineering Pre-Professional Program provided that the student has a resident cumulative g.p.a. of 2.3 or better.

ADMISSION TO THE PROFESSIONAL PROGRAM

The Pre-Architectural Engineering students must complete the first four semesters of the program prior to taking any Upper Division Professional Program courses in Architectural Engineering based upon the criteria outlined in the **Admissions** section and the **Course Requirement** Section of this document. (See also the curriculum requirements)

An application to the Architectural Engineering Professional Program must be submitted to the Office of the Department Head of Architectural Engineering

* Humanities and Social Science (H/SS) Electives are to be selected from the official College of Engineering H/SS course list.

** Complementary Electives are to be selected from the current approved Department list.

*** Science Electives are to be selected from the current approved department list.

**** Engineering Electives are to be selected from the current approved department list.

ADMISSION TO THE PREPROFESSIONAL PROGRAM

New students, including transfer students, should submit the standard KSU application form directly to the KSU Office of Admissions. The admission criteria are the same as those for the University and the College of Engineering.

Any student who has completed more than 15 credit hours at Kansas State University in any major outside the Department of Architectural Engineering and Construction Science may change majors into the Architectural Engineering Pre-Professional Program provided that the student has a resident cumulative g.p.a. of 2.3 or better.

ADMISSION TO THE PROFESSIONAL PROGRAM

The Pre-Architectural Engineering students must complete the first three semesters of the program prior to taking any Upper Division Professional Program courses in Architectural Engineering based upon the criteria outlined in the **Admissions** section and the **Course Requirement** Section of this document. (See also the curriculum requirements)

An application to the Architectural Engineering Professional Program must be submitted to the Office of the Department Head of Architectural Engineering

and Construction Science by the end of the eighth week of either the Spring or Fall semester. This submission will be immediately prior to the student's pre-enrollment into any of the Upper Division Professional Program courses. All courses in the Lower Division Pre-Professional Program Core of the program of application, valid at the time the student entered the university, must be completed and all grade criteria must be met by the end of the semester that the application is submitted. An exception to this rule is the student who expects to complete these criteria during the summer term. Those students should also make application in the Spring semester prior to pre-enrollment. All eligible applicants will be allowed to pre-enroll into Professional Program courses with the understanding that they will be dropped if they do not complete the requirements for admission to the professional program prior to the beginning of the subsequent semester. Applications will be reviewed by the Academic Affairs Committee of the Department and accepted or rejected as soon as possible after semester grades are issued.

COURSE REQUIREMENTS

Applicants must meet the following criteria for Admission to the Professional Program of the curriculum as follows:

1. The student has achieved a g.p.a. of 2.3 or better in all of the courses in the Lower Division Pre-Professional Program core and courses which apply to the Professional Program, ***and***;

2. Has earned a grade of credit (CR) in a departmental seminar for each semester that the applicant was enrolled in the Lower Division Pre-Professional Program core, ***and;***

3~~. Has completed the following courses (or equivalent) with grades of C or better: CNS CNS 110 History Bldg & Const; MATH 220, Analy Geom & Calc 1; CHM 210, Chemistry 1, ARE 100, Arch Engg Orientation; CNS 220, Const Materials; MATH 221, Analy Geom & Calc 2; CHM 230, Chemistry 2, or BIOL 198, Biology; ECON 110, Princ of Macroecon; ENGL 100, Expos Writing 1; PHYS 213, Physics 1; MATH 222, Analy Geom & Calc 3; COMM 105, Public Speaking 1A, CNS 200, Cmptr Appl Engr/Cons; ENGL 200, Expos Writing 2; CNS 210, Graph Comm I, PHYS 214, Physics 2; MATH 240, Elem Diff Equations; CE 333, Statics~~

4. **Academic Grade Policy**

A letter grade of 'C' or better is required for all pre-requisites prior to taking subsequent preprofessional program courses.

ACADEMIC STANDARDS

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3. Has completed the following courses (or equivalent) with grades of C or better: ARE 100, Arch Engg Orientation; CNS 110, History Bldg & Const; CHM 210, Chemistry 1; MATH 220, Analy Geom & Calc 1; CNS 210, Graph Comm 1; CNS 220, Const Materials; PHYS 213, Engg Phys 1; MATH 221, Analy Geom & Calc 2; ARE 295, Bldg Sys Intro; PHYS 214, Engg Phys 2; CE 333, Statics; MATH 222, Analy Geom & Calc 3.

4. **Academic Grade Policy**

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ACADEMIC STANDARDS

After admission to the Professional Program, students will be subject to the following academic standards

After admission to the Professional Program, students will be subject to the following academic standards that are more stringent than those for the University

1. **Academic Grade Policy**
A letter grade of 'C' or better is required for all prerequisites
prior to taking subsequent professional
program courses.

2. **Warning of Unsatisfactory Progress**
Regardless of the overall g.p.a., a student with any "D" or "F" grade in any term or who has a term g.p.a. below 2.3 will receive a "**Warning of Unsatisfactory Progress**." This warning will be removed if the student earns "C's" or better in at least 12 credit hours of core courses with no "D's" or "F's" during the next semester in residence.

A student whose cumulative resident g.p.a. drops below a 2.3 will receive a "**Warning of Unsatisfactory Progress**." This warning will be removed if the student raises his or her cumulative resident g.p.a. to 2.3 or above during the following semester.

3. **Professional Program Probation for Unsatisfactory Progress**
Regardless of the overall g.p.a., a student who has received a "**Warning of Unsatisfactory Progress**" will be placed on "**Professional Program Probation for Unsatisfactory Progress**" if he or she receives a "D" or "F" or earns below a 2.3 semester g.p.a. for any subsequent term, including any summer session.

A student whose cumulative resident g.p.a. has dropped below 2.3 and has received a **"Warning of Unsatisfactory Progress"** will also be placed on "**Professional Program Probation for Unsatisfactory Progress**" if he or she does not raise his or her cumulative resident g.p.a. to 2.3 or above during the "Warning of Unsatisfactory Progress" semester. A student placed on Professional Program Probation **may not** automatically enroll in any Department of Architectural Engineering and Construction Science courses.

The student may remain in the Professional Program after the probationary semester provided that the student has demonstrated the ability and desire to meet the criteria as set forth in the above paragraphs. The student placed on probation must take the schedule of courses assigned by the Academic Affairs Committee of the department and achieve a minimum g.p.a. of 2.3 or greater, OR a minimum GPA as established by the Academic Affairs Committee, with no "D" or "F" grades, during the "probationary semester" to be eligible to remain in the Professional Program and to take Professional Program courses.

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1. **Academic Grade Policy**
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take Professional Program courses. Any appeal for removal of this probation may be made by filing an appeal form with the Department Head of Architectural Engineering and Construction Science at least ten calendar days prior to the first day of the semester. The Department Head may reject any application or may submit it to the Academic Affairs Committee for consideration. Any and all actions on applications submitted by the Department Head will be made by the Academic Affairs Committee of the Department in a hearing in which the student will be interviewed. 4. **Dismissal from the Program** If a probationary student meets the requirements to remain in the Professional Program, any subsequent grade of "D" or "F" or a term GPA below a 2.3 during any subsequent term will result in dismissal from the Professional Program *for a period of one year*. During this period, the student cannot enroll in any courses offered by the department. After the oneyear dismissal, the student may be readmitted to the program with their course schedule and grade point to be earned to be established by the Academic Affairs/Professional Program Committee of the department. Failure to meet the academic standards outlined above in any ensuing term or failure to comply with the academic committee's direction will result in permanent dismissal from the programs of the department. ****** The warning, probation, and dismissal actions referenced above are departmental actions that are separate and distinct from Academic Warning and Academic Dismissal as defined by the University General Catalog. Grades earned during an intersession will not be considered by the Department in the determination of unsatisfactory academic progress by the department.	Any appeal for removal of this probation may be made by filing an appeal form with the Department Head of Architectural Engineering and Construction Science at least ten calendar days prior to the first day of the semester. The Department Head may reject any application or may submit it to the Academic Affairs Committee for consideration. Any and all actions on applications submitted by the Department Head will be made by the Academic Affairs Committee of the Department in a hearing in which the student will be interviewed. 4. **Dismissal from the Program** If a probationary student meets the requirements to remain in the Professional Program, any subsequent grade of "D" or "F" or a term GPA below a 2.3 during any subsequent term will result in dismissal from the Professional Program *for a period of one year*. During this period, the student cannot enroll in any courses offered by the department. After the oneyear dismissal, the student may be readmitted to the program with their course schedule and grade point to be earned to be established by the Academic Affairs/Professional Program Committee of the department. Failure to meet the academic standards outlined above in any ensuing term or failure to comply with the academic committee's direction will result in permanent dismissal from the programs of the department. ****** The warning, probation, and dismissal actions referenced above are departmental actions that are separate and distinct from Academic Warning and Academic Dismissal as defined by the University General Catalog. Grades earned during an intersession will not be considered by the Department in the determination of unsatisfactory academic progress by the department.

Changes:

This document describes a major change in the curriculum going from a 5 year UG degree to a 4 year UG degree. Individual changes are far too many to list here. Refer to the semester descriptions above.

Architectural Engineering Degree Modifications

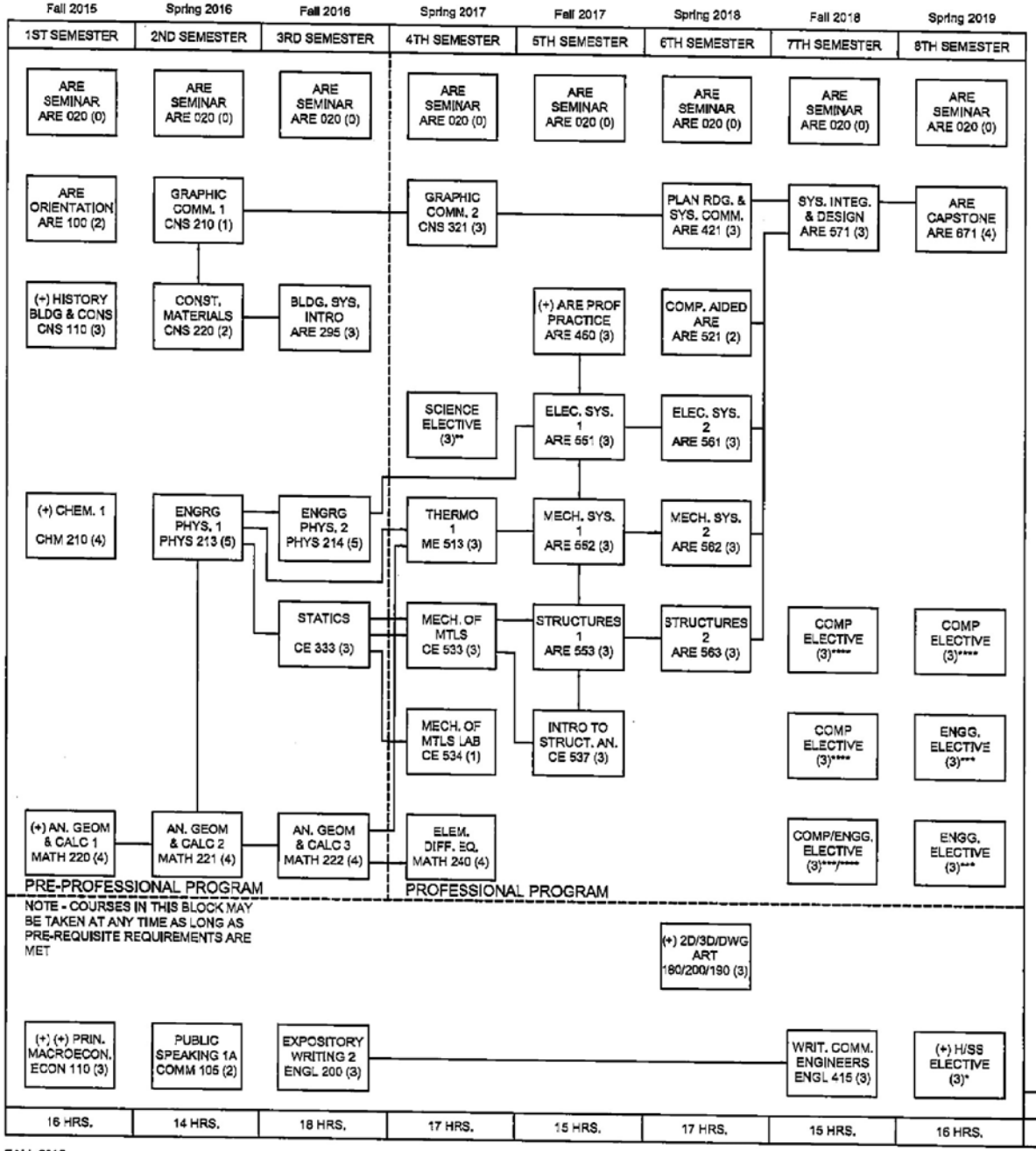
Summary of Deleted and Added Courses

Course	Cr Hrs
Required Courses Deleted:	
CHM 230-Chemistry 2 or BIOL 198-Biology	4
ENGL 100-Expos Writing 1	3
CNS 200-Computer Applications	2
ARE 532-Lighting Systems Design	2
IMSE 530-Engineering Econ	2
CE 212-Elementary Surveying	3
ARE 310-Intro to AutoCAD	1
CNS 325-Construction Drawings	3
ECE 519-Elec Circuits & Controls	4
ARE 534-Thermal Systems	3
ARE 522-Load/Stab Structures	2
STAT 490-Statistics for Engineers	1
ARE 411-ARE Design	3
ARE 533-Building Elec	3
ARE 537-Acoustics	2
ME 512-Dynamics	3
ARE 528-Reinf Concrete Structures	3
ARE 536-Plmbg/Fire Prot Systems	3
ARE 540-Building Mech Systems	3
ME 571-Fluid Mech	3
ARE 524-Steel Structures	3
ARE 590-Integrated Bldg Systems	3
CE 522- Soil Mech	3
ARE 539-ARE management	3
ARE 690-Senior Project	3
Humanities/Soc Science Elective	3
Free Elective	3
Total Hours Deleted	**74**

Course	Cr Hrs
Required Course Added:	
ARE 295-Bldg Systems Intro	3
ARE 421-Plan Reading & Sys Comm	3
ARE 460-Professional Practice	3
ARE 521-Comp Aided ARE	2
ARE 551-Elec Sys 1	3
ARE 552-Mech sys 1	3
ARE 553-Structures 1	3
ARE 561-Elec Sys 2	3
ARE 562-Mech Sys 2	3
ARE 563-Structures 2	3
ARE 571-Sys Integr & Design	3
ARE 671-ARE Capstone	4
Science Elective	3
Engineering Electives	6
Total Hours Added	**45**

Credit hours reduced from 157 (five-year degree) to 128 (four-year degree)

ARCHITECTURAL ENGINEERING



FALL 2015

K-STATE 8 TAG (+)	ARE COURSE
AESTHETIC EXPERIENCE AND INTERPRETIVE UNDERSTANDING	ART ELECTIVE
EMPIRICAL AND QUANTITATIVE REASONING	MATH 220
ETHICAL REASONING AND RESPONSIBILITY	ARE 360
GLOBAL ISSUES AND PERSPECTIVES	ECON 110
HISTORICAL PERSPECTIVES	CNS 110
HUMAN DIVERSITY WITHIN THE UNITED STATES	H/SS ELECTIVE
NATURAL AND PHYSICAL SCIENCES	CHM 210
SOCIAL SCIENCES	ECON 110

FLOWCHART KEY

PREREQUISITE OR CONCURRENT

PREREQUISITE

COURSE INFO

FALL 2015

* HUMANITIES AND SOCIAL SCIENCE (H/SS) ELECTIVES ARE TO BE SELECTED FROM THE OFFICIAL COLLEGE OF ENGINEERING H/SS COURSE LIST

** SCIENCE ELECTIVE IS TO BE SELECTED FROM THE CURRENT APPROVED DEPARTMENT LIST

*** ENGINEERING ELECTIVES ARE TO BE SELECTED FROM THE CURRENT APPROVED DEPARTMENT LIST

**** COMPLIMENTARY ELECTIVES ARE TO BE SELECTED FROM THE CURRENT APPROVED DEPARTMENT LIST

Electrical and Computer Engineering

Computer Engineering

Effective: Fall 2015

Rationale:

The different specializations within Computer Engineering (CMPEN) have become difficult to maintain, since many of the classes called for were not having sufficient enrollment. This situation resulted in a large number of substitutions being made in students' program in order for them to graduate in a reasonable amount of time.

Summary of changes:

1) Drop the areas of specialization and have a single curriculum similar to the current Embedded Systems specialization.
2) Drop six hours of technical electives.
3) Add two required classes, ECE 542 – Local Area Networking and ECE 631 Microcomputer System Design

Detailed Rationale:

- **Courses that were part of the three specializations were not being filled and were becoming difficult to cover.**

- **The selection of the required courses was based on an assessment of what employers have been identifying as critical skills.**

Impact: No significant impacts outside the department are anticipated for any of these changes.

http://catalog.k-state.edu/preview_program.php?catoid=13&poid=3450&returnto=1336

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 (17 credit hours)

- CIS 200 - Programming Fundamentals **Credits:** (4)
- ECE 115 - New Student Design

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 (17 credit hours)

- CIS 200 - Programming Fundamentals **Credits:** (4)
- ECE 115 - New Student Design

Project **Credits:** (1)

- 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 (15 credit hours)

- CIS 300 - Data and Program Structures **Credits:** (3)
- 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)

Project **Credits:** (1)

- 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 (15 credit hours)

- CIS 300 - Data and Program Structures **Credits:** (3)
- 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 (16 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (4)
- ECE 649 - Computer Design I **Credits:** (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Senior year

Fall semester (15 credit hours)

- ***Technical Electives **Credits:** (~~6~~)

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 (16 credit hours)

- **Humanities/Social Science Elective **Credits:** (3)
- ECE 512 - Linear Systems **Credits:** (3)
- ECE 557 - Electromagnetic Theory I **Credits:** (4)
- ECE 649 - Computer Design I **Credits:** (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)

Senior year

Fall semester (15 credit hours)

- ***Technical Electives **Credits:** (3)

• **** CIS 520 - Operating Systems I **Credits:** (3) • ECE 590 - Senior Design Experience **Credits:** (3) • ECE 643 - Computer Engineering Design Lab **Credits:** (3)	• **** CIS 520 - Operating Systems I **Credits:** (3) • ECE 542 – Local Area Networking **Credits:** (3) • ECE 590 - Senior Design Experience **Credits:** (3) • ECE 643 - Computer Engineering Design Lab **Credits:** (3)
Spring semester (15 credit hours)	Spring semester (15 credit hours)
• ***Technical electives **Credits**: (~~9~~) • **Humanities/Social Science Elective **Credits:** (3) • ECE 645 - Digital Electronics **Credits:** (3)	• ***Technical electives **Credits**: (6) • **Humanities/Social Science Elective **Credits:** (3) • ECE 631 – Microcomputer System Design **Credits:** (3) • ECE 645 - Digital Electronics **Credits:** (3)
Notes	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. 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 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. **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	*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. 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 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. **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

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. *****No more than twelve (12) credit hours of courses in electrical and computer engineering may be transferred to Kansas State University for credit toward a bachelor degree in either electrical engineering or computer engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 525, ECE 557, ECE 581. Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester. ## NOTE: K-State 8 General Education Requirements **IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** ## Total credit hours required for graduation (129)	needed to complete the requirements of the K-State 8 General Education program. ***Technical electives must be selected from the list of accepted courses. ****Offered only semester shown in curriculum. *****No more than twelve (12) credit hours of courses in electrical and computer engineering may be transferred to Kansas State University for credit toward a bachelor degree in either electrical engineering or computer engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 525, ECE 557, ECE 581. Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester. ## NOTE: K-State 8 General Education Requirements **IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** ## Total credit hours required for graduation (129)

College of Technology and Aviation, K-State Salina (11-7-14)

NON-EXPEDITED COURSE PROPOSALS AND MODIFICATIONS

Courses Numbered 000-599

Department of Engineering Technology

Primary Contact Person: Timothy Bower, Associate Professor
Phone: 785-826-2920
Email: tim@ksu.edu

ADD:	**CMST 305. Robotics Programming.** (3) Spring. Concepts and practices related programming robotic systems emphasizing the unique input/output (I/O) and concurrency requirements of robotics. Students learn about sensors, actuators, kinematics, control systems, teleoperated operation and autonomous algorithms. Students write programs that run on a robot as well as a drive station computer with network communication to a robot. Pr.: CMST 247 or CMST 302. Coreq.: MATH 150 or MATH 151. K-State 8: • Empirical and Quantitative Reasoning • Natural and Physical Sciences
RATIONALE:	Programming of robotic systems requires special considerations and software tools that are not taught in other CMST courses.
IMPACT:	No impact on any other department.
EFFECTIVE DATE:	Spring 2015

Primary Contact Person: Saeed Khan, Associate Professor
Phone: 785-826-2677
Email: saeed@ksu.edu

ADD:	**ECET 414. Electromagnetic Applications.** (4) Spring. Emphasizes the physical understanding and visualization of Maxwell's Equations leading to the design of linear bilateral circuit components, waveguides and passive sensors for use in the radio-frequency (RF) regime. Three hours lec and two hours lab. Pr.: ECET 320 and MATH 220. K-State 8: • Empirical and Quantitative Reasoning • Natural and Physical Sciences
RATIONALE:	This course is designed to provide students with a better understanding of the electromagnetic aspects of practical electronic devices and their design.
IMPACT:	No impact on any other department.
EFFECTIVE DATE:	Spring 2015

Graduate course and curriculum changes (11-4-14)

Non-Expedited New Courses

DED 820. Foundations of Social Justice Education: Research, Theory, and Practice. (3) I, S. This course focuses on the principles of social justice education that promote equitable, sustainable, and transformative change in various formal and non-formal educational settings across the lifespan. The course integrates theoretical and practical aspects of social justice in local, national and international settings such as K-12 formal education, higher education, adult education, community development, and family education, and agricultural education.

IMPACT: None.

RATIONALE: This is the introductory course of a proposed graduate certificate in Social Justice Education, a college-wide program of the College of Education. The course will introduce the topic to those participating in the graduate certificate program.

EFFECTIVE DATE: Summer 2015

DED 880. Reflective Practice in Social Justice Education. (3) II. This course focuses on the application of principles of social justice education in informal and formal educational settings. Student-conceptualized and -implemented theory-to-practice social justice education projects serve as the capstone or culmination of the graduate certificate, with projects presenting powerful opportunities for students to foster social change and positively impact the communities in which they work. Pre-Requisite: DED 820.

IMPACT: None.

RATIONALE: This is the capstone course of a proposed graduate certificate in Social Justice Education, a college-wide program of the College of Education. The course includes planning, implementing and evaluating a theory-to-practice social justice education project in the school, community and organizational settings.

EFFECTIVE DATE: Fall 2015

AMETH 700. Advanced Topics in American Ethnic Studies. (3) I, II, S. Provides students the opportunity to investigate topics in American Ethnic Studies that enable greater depth and complexity of understanding of field's methodological approaches and specializations. K-State 8: Human Diversity within the US; Ethical Reasoning and Responsibility.

K-State 8 RATIONALE: Advanced Topics in American Ethnic Studies will further students' skills in advancing the mission of our department: "to serve American society through our focus on underserved communities of color and communities historically under-represented at the nation's university." Advanced Topics courses will thus assist students in developing a

heightened awareness of how diverse ethnicities and racial formations shape their sense of self in relation to diverse others using scholarly study, research and personal interaction. Advanced Topics courses in American Ethnic Studies will further students' skills in advancing the mission of our department: "to promote social justice ideals and practices of inclusivity [and] foster engaged research and praxis responsive to the needs and realities of underserved constituencies". Advanced Topics courses will thus assist students in learning how to think through ethical dilemmas and make sound decisions about how to participate in society to promote the wellbeing of all, especially the racially disenfranchised.

RATIONALE: This course is being added to increase American Ethnic Studies curricular offerings that provide greater in-depth theoretical and empirical analysis of topics central to the field's development. Since our courses currently also draw much interest from graduate students, the 700- level Advanced Topics course will allow these students to enroll in relevant advanced AMETH topics courses for graduate credit.

IMPACT: None

EFFECTIVE DATE: Spring 2015

GEOG 708. Topics in Programming for Geographic Analysis. (3) I, II. Introduces programming languages, scripting methods, and/or free and open-source software (FOSS) and their use with geospatial technologies and spatial data. Explanations of programming concepts, demonstrations of techniques, and practical exercises that will enable students to develop their own programs and workflows for geoprocessing, spatial analysis, and map production. Pr.: GEOG 608 is recommended.

RATIONALE: The automation of geoprocessing and geocomputation tasks is becoming common practice among geographers who use geospatial technologies and techniques for basic and applied research. Increasingly, employers are also asking undergraduates to be competent users of programming/scripting languages such as Python and Javascript, as well as free and open source applications for mathematics, statistics, and graphing like R and openModeller. This class will focus on the application of such languages/programs to perform geographic analysis, create custom geoprocessing functions, and for implementing higher-order automation procedures for data processing and analysis. As a topics course, we anticipate instructors will focus on one language/application during each offering, allowing students to repeat the course and learn different content. This proposed course fills a large void in our current geographic information science (GIScience) curriculum at the senior undergraduate and graduate levels by building on beginning and intermediate-level courses such as GEOG 508 GIS I, GEOG 605 Remote Sensing of the Environment, GEOG 608 GIS II, and GEOG 711 Topics in Remote Sensing to extend the range of geoprocessing, analysis, and data automation functions available to spatial scientists.

IMPACT: None

EFFECTIVE DATE: Spring 2015

MUSIC 791. Advanced Vocal Pedagogy. (2) I, S. Advanced study of vocal production, exploring the scientific principles of breathing, resonance, timbre, and other vocal features. Discussion of vocal health and teaching styles.

RATIONALE: We have offered this course as a MUSIC 799 course in the past but since it will be reoccurring, we want to offer it as a separate course.

IMPACT: Graduate School. To facilitate enrollment and graduate school program of study planning. Laura Murphy, Graduate School was contacted September 30, 2014, and Dean Shanklin responded 10-8-2014 asking to change the course number to a 700-level course. We are changing from MUSIC 691 to MUSIC 791 per the Graduate School request.

EFFECTIVE DATE: Fall 2015

THTRE 800. Introduction to Graduate Studies in Theatre: Library, Research, and Information Skills. (1-3) I. Skills for accessing research tools and resources needed in the age of the internet, along with instruction on citations, literature reviews, and other formatting necessary for graduate research papers.

RATIONALE: Graduate students need to learn the basics of research in order to utilize the resources that our library provides and to learn how to appropriate cite papers, etc. We have been offering what has been equivalent to a one credit class informally for the last I years and feel that since some students opt not to take it, we need to make it formal and ensure that everyone takes it. We would like to make it variable credit so that the option is available for further instruction in research methods beyond the basics. We will only require 1 credit hour in the curriculum.

IMPACT: None

EFFECTIVE DATE: Fall 2015

Non-Expedited Course Changes

FROM:	TO:
ECON 630 – Introduction to Econometrics. (3) II. An introduction to the analytical and quantitative methods used in economics. Applications to specific problems with an emphasis on computer analyses. K-State 8: Empirical and Quantitative Reasoning; Social Sciences. Pr.: ECON 120 or AGEC 120 or 121; MATH 205 or 220; STAT 351, 511 or 705.	**ECON 630 – Introduction to Econometrics.** (3) II. An introduction to the analytical and quantitative methods used in economics. Applications to specific problems with an emphasis on computer analyses. K-State 8: Empirical and Quantitative Reasoning; Social Sciences. Pr.: ECON 120 or AGEC 120 or 121; MATH 205 or 220; STAT 351 or AGEC 501 or STAT 511 or STAT 705.

RATIONALE: Course Catalog needs to be updated to allow AGEC 501 as a prerequisite equal to STAT 351

IMPACT: Agriculture Economics. This request to add AGEC 501 came from John Crespi, Professor, Department of Agricultural Economics in an email dated April 3, 2014.

EFFECTIVE DATE: Spring 2015

Non-Expedited New Curriculum

New Certificate: Social Justice Education

FROM:	TO:
	Graduate Certificate Program in Social Justice Education The purpose of this 15-credit hour program is to prepare individuals to integrate theoretical and pedagogical aspects of social justice education in formal and informal educational settings at local, national, and international levels. Admission criteria: Students applying to the K-State Graduate Certificate Program in Social Justice Education (SJE) must be admitted to the K-State Graduate School. A student with a bachelor's degree or in the final year of completing the degree is expected to have a cumulative grade point average of at least 3.0 from an accredited institution to be admitted to the certificate program. Curriculum Description: The 15-credit SJE certificate program focuses on the integration of foundational, theoretical, and practical aspects of social justice in educational settings, with social justice education theory-to-practice as central to the program. The certificate is based on the concept that social justice education is an ongoing, contextual process that impacts inequitable social, economic, and political systems through critical examination and intentional advocacy. 1. Required Courses (6 credits): DED 820: Foundations of social justice education: Research, theory and practice (3 credit hours) DED 880: Reflective practice in social justice education (3 credit hours)

	2. College of Education elective courses (6 - 9 credits) from these and possibly other courses: EDACE 750 Women, Education, and Work EDACE 818 Social Foundations of Adult Education EDACE 822 International Adult Education and Literacy EDCEP 830 Diversity in Higher Education EDCEP 851 Multicultural Aspects of Academic Advising EDCI 721 ESL/Dual Language Methods EDCI 740 Culture and Language in Classroom Practice EDCI 755 Multicultural Issues in Teaching ~~EDCI 786 Differentiated Instruction for Diverse Learners~~ EDCI 910 Multicultural Curriculum Programming EDLEA 801 Ethical Dimensions of Leadership EDLEA 834 Strategies for Educational Change EDLEA 845 Leadership for Diverse Populations EDSP 710 Education of Exceptional Individuals 3. Electives from other colleges (0 – 3 credits): Courses approved for program on a case-by-case basis. Examples are: WOMST 551, History and Politics of Family Violence; WOMST 605 Women's Studies Practice and Applied Social Change; PSYCH 556 Multicultural Psychology; PSYCH 563 Gender Issues in the Workplace; ANTH 633 Gender, Power, and International Development; ANTH 685 Race and Culture; SOCWK 580 Women's Perspectives on Peace and War; SOCIO 541 Wealth, Power and Privilege; SOCIO 735 Sociology of Human Trafficking; SOCIO 851 Social Change; GERON 777 Public Policy: Economic and Social Impacts on Older Adults; FSHS 752 Culture and Conflict; FSHS 761 International Conflict and Trauma.

IMPACT: Three credit hours of this certificate program MAY be taken from other non College of Education departments. Examples are: WOMST 551 History and Politics of Family Violence, WOMST 605 Women's Studies Practice and Applied Social Change, PSYCH 556 Multicultural Psychology, PSYCH 563 Gender Issues in the Workplace, ANTH 685 Race and Culture, SOCWK 580 Women's Perspectives on Peace and War, SOCIO 541 Wealth, Power and Privilege, SOCIO 633 Gender, Power, and Development, SOCIO 735 Sociology of Human Trafficking, SOCIO 851 Social Change, SOCIO 933 Gender and Society, GERON 777 Public Policy: Economic and Social Impacts on Older Adults, FSHS 752 Culture and Conflict, FSHS 761 International Conflict and Trauma.

We have discussed this certificate program with faculty and department chairs in the departments listed above. The Appendix contains letters from the department chairs of Women's Studies; Psychology; Sociology, Anthropology and Social Work; and the director of the School of Family Studies and Human Services.

RATIONALE: The principles of social justice education promote equitable, sustainable, and transformative change in various educational settings that include traditional educational contexts (e.g. K-12 organizations, higher education) and those outside the traditional settings (e.g. military, agriculture, counseling, non-profits, corporations, health care, community development organization) as well as both national and international settings. There are few opportunities for individuals preparing for or working in formal or non-formal educational settings to learn specific pedagogical/andragogical concepts appropriate for promoting social justice and fostering change to positively impact individuals and communities. This graduate certificate will provide an interdisciplinary experience that is appropriate for students in a range of academic programs, such as social work, family studies, agricultural education, counseling, advising, curriculum and instruction, educational leadership, women's studies, and sociology. The certificate is also relevant for professionals and volunteers in K-20 and informal settings such as shelters, community agencies, Head Start, Peace Corps, NGOs, and government. This will be the only online social justice education program in the country that does not just include K-12 formal education.

EFFECTIVE DATE: Summer 2015

Graduate Certificate Proposal
Certificate Program in Social Justice Education
College of Education
Kansas State University

Introduction

This 15 credit hour Social Justice Education Graduate Certificate proposed by the College of Education (COE) focuses on the principles of social justice education that promote equitable, sustainable, and transformative change in various formal and non-formal educational settings. The certificate is based on the concept that social justice is an ongoing, contextual process that impacts inequitable social, economic, and political systems through critical examination and intentional advocacy. The certificate program integrates theoretical and practical aspects of social justice in educational settings, with social justice education theory-to-practice as central to the program. It represents a focused collection of courses that related to social justice education in school, community, and organizational settings. Student-conceptualized and -implemented theory-to-practice social justice education projects serve as the capstone or culmination of the graduate certificate, with projects presenting powerful opportunities for students to foster social change and positively impact the communities in which they work. Thus, the graduate certificate will provide an interdisciplinary experience that is appropriate for students from a range of academic programs, such as social work, family studies, agricultural education, counseling, advising, curriculum and instruction, educational leadership, women's studies and sociology. The proposed graduate certificate program will be interdepartmental within the College of Education and will be managed by a steering committee made up of at least one member from each of the three departments in the college.

The proposed program strongly supports the College of Education's mission: to prepare knowledgeable, ethical, and caring decision makers for a diverse and changing world. It will fulfill the educational missions of Kansas State University and the College of Education by:

- Preparing knowledgeable, ethical, and caring decision makers for a diverse and change world.
- Fostering excellent teaching, research, and service that develop a highly skilled and educated citizenry necessary to advancing the wellbeing of Kansas, the nation, and the international community.
- Improving the quality of life and standard of living of those we serve.
- Engaging in partnerships with various stakeholders to translate knowledge into applications that address public needs.
- Increasing the number of students who complete graduate certificates and master's degrees.

In addition, the certificate aligns with the professional interests of at least 60% of the faculty of the college, according to a survey conducted by the Associate Dean in 2011. The Midwest Educational Equity Center and the Center for Intercultural and Multilingual Advocacy (CIMA), both part of the College of Education, are excellent resources for this certificate program.

I. Statement of the Educational Objectives of the Certificate Program

The primary goal of social justice is assuring that all groups have the opportunity to receive resources equally. In educational settings, educators ensure the development of a sense of positive social and cultural identity, a sense of agency, and recognition of sociological differences among individuals (e.g. gender, race, class, disability, sexual orientation, etc.) *The principles of social justice education promote equitable, sustainable, and transformative change in various educational settings that include traditional educational contexts (e.g. K-12 organizations, higher education) and those outside the traditional settings (e.g. military, agriculture, counseling, non-profits, corporations, health care, community development organization) as well as both national and international settings.* Social justice education is an ongoing, contextual process that impacts inequitable social, economic, and political systems through critical examination and intentional education and advocacy for social justice. *A social justice education program, then, would prepare educators and others to recognize, name and combat inequities in schools, communities, and society.*

Social justice education can be viewed through different lenses such as race, ethnicity, economic status, gender, national origin, sexuality, disability, socio-economic status, language, and others as well as the intersectionality of these. The axes of social difference – disability/ableism, gender/sexism, age/ageism, sexuality/heterosexism, race/racism, and the intersectionalities of oppression, power, and privilege are central to lived experiences (Bell, 1997). Social justice education facilitates an unpacking of these lived experiences and fosters pedagogical practices to address inequality (Mayhew & De Luca Fernandez, 2007; Spalding, Klecka, Lin, Odell & Wang, 2010; Kelly, 2012).

The proposed program is customized to student interests and provides an educational foundation for theory-to-practice experience for students in providing and promoting social justice in formal and non-formal educational settings. The curricula facilitate critical reflection upon prior socialization with respect to students' worldview and social justice. Students are presented with opportunities to learn and then demonstrate knowledge of theory, research, and practical applications related to social justice education. Therefore, the focus will be theory-driven approaches in social justice education as well as knowledge and application of the principles of social justice education through project based learning in their communities and places of work.

Through coursework and theory-to-practice capstone projects, students will contextualize social justice education to facilitate the improvement of the current and future quality of life and standard of living of those whom students serve. Students will develop skills, theory, and ethical judgments to engage in partnerships with various stakeholders to translate knowledge into applications that address public needs in formal and non-formal education settings.

II. Certificate Program Courses

Courses in the graduate certificate of Social Justice Education are largely drawn from the existing set of courses relating to social justice and tailored to the student's particular interests and needs. The program requires one 3-credit introductory course and one 3-credit practicum course (to be developed), listed as a Dean of Education course (DED 820 and DED 880) and administered and taught by College of Education faculty. The two required courses will be taught on-line and may also be taught face-to-face at any of the three K-State campuses. Other

approved courses are drawn from existing COE courses relating to social justice education. Three credits may come from course offered by departments outside the College of Education; the SJE Steering Committee will approve these courses. Approved courses are a mix of online and face-to-face formats. In the capstone course, DED 880, students will present their projects as evidence of the integration of social justice education with their own professional interests and contexts. This symposium will be formatted so that students may present virtually or face-to-face. Twelve of the 15 credit hours in the program must be at the 600 level or above.

Course listings:

REQUIRED COLLEGE OF EDUCATION COURSES (6 hours)

DED 820: Foundations of Social Justice Education: Research, Theory and Practice (3 credit hours) NEW COURSE

DED 880: Reflective Practice in Social Justice Education (3 credit hours) NEW COURSE

COLLEGE OF EDUCATION ELECTIVES (6-9 credit hours)

Note: The courses listed here are subject to change. Some are listed in the catalog as "offered on sufficient demand" or there is no regularized offering for some. We speculate that as the SJE certificate program grows, these courses will be offered on a regular basis. We also expect that as the program grows, COE faculty will develop specific courses that meet the needs of students and the goals of the program. In addition, there may be other courses that students may take, with permission of their certificate advisor, that are offered in the College of Education. We have chosen to include on this list the more generic courses that would be appropriate for students across the K-20 and adult education spectrum as well as across both formal and informal educational settings. These are a mix of face-to-face and online courses.

EDACE 750 Women, Education, and Work (face-to-face, not regular)
EDACE 818 Social Foundations of Adult Education (online annually)
EDACE 822 International Adult Education and Literacy (online, even years)
EDCEP 830 Diversity in Higher Education (online, summer)
EDCEP 851 Multicultural Aspects of Academic Advising (online, fall and spring)
EDCI 720 ESL/Dual Language Methods (face-to-face and online)
EDCI 740 Culture and Language in Classroom Practice (face-to-face and online)
EDCI 755 Multicultural Issues in Teaching (online)
~~EDCI 786 Meeting the Needs of All Students (online)~~
EDCI 910 Multicultural Curriculum Programming (face-to-face)
EDLEA 801 Ethical Dimensions of Leadership (online fall of even years)
EDLEA 834 Strategies for Educational Change (online annually)
EDLEA 845 Leadership for Diverse Populations (online, summer)
EDSP 710 Education of Exceptional Individuals (face-to-face, every semester)

ELECTIVES FROM OTHER COLLEGES (0-3 credit hours)

Courses from other colleges that are related to the context of social justice *may* be part of the certificate program. Examples are:

WOMST 551, History and Politics of Family Violence
WOMST 605 Women's Studies Practice / Applied Social Change

WOMST 605 Women's Studies Practice / Applied Nonviolence
PSYCH 556 Multicultural Psychology
PSYCH 563 Gender Issues in the Workplace
ANTH 685 Race and Culture
SOCWK 580 Women's Perspectives on Peace and War;
SOCIO 541 Wealth, Power and Privilege
SOCIO 633 Gender, Power, and Development
SOCIO 735 Sociology of Human Trafficking
SOCIO 851 Social Change
SOCIO 933 Gender and Society
GERON 777 Public Policy: Economic and Social Impacts on Older Adults
FSHS 752 Culture and Conflict
FSHS 761 International Conflict and Trauma.

III. Statement of How the Courses Are Associated with the Certificate

The two foundational courses (introduction and capstone courses) will provide students with a foundational understanding of the principles of the multiple dimensions of social justice education and applying them in an informal or formal educational setting. The elective courses represent a significant interdepartmental and college-wide collaboration that will make it possible for students to integrate this certificate with their specific areas of interest including women's studies, sociology, family studies, adult basic education, military education, teacher preparation, special education, educational leadership, sustainable agriculture, health education outreach and so on. The certificate program will culminate with an integrative final capstone practicum and theory-to-practice social justice education initiative implemented within the student's context (e.g. K-12 education, human resource development, continuing professional education, community development, outreach education, counseling, military education, etc.) Students will demonstrate the integration of social justice education with a specific area of interest and present project development and outcomes in an end of the semester symposium at which students may present virtually or face-to-face.

When a student applies to the SJE certificate program, a SJE steering committee will made a decision about admission and will appoint an in-college certificate advisor who will be the student's point of contact during the program. The certificate advisor will develop, with the student, personal and professional goals as well as a coursework plan. Courses not on the list above will be brought to the steering committee for approval. A certificate will be completed when the advisor indicates to the Coordinator that the student's plan is completed. We believe that advising and planning will be done by groups or cohorts as the program grows.

IV. Statement of Need

Many professionals in various institutions, organizations, and other contexts work on social justice issues that are inherent in their settings. Public school teachers, social workers, community health professionals, community development professionals, volunteers in may settings and others may be interested in theory to practice strategies to help them facilitate system changes in a more targeted and comprehensive manner. The K-State SJE graduate certificate has the potential to fulfill the educational needs of these individuals who bring a diverse range of prior academic and other lived experiences, yet who share a common goal to

implement effective social justice education initiatives in their settings. In addition, the certificate ties well with a planned graduate certificate in "dialogue, deliberation and public engagement" in the Department of Communication studies and an interdisciplinary doctorate in "communication and social change".

Discussions with COE faculty who provide relevant courses have met with strong support and affirmation of the need for the program. For example, the professor who teaches EDCI, Multicultural Issues in Teaching, states that students become interested in the topic and ask, "what can we take now?" Likewise, the staff of the Midwest Equity Assistance Center (MEAC) who outreach across seven states in the region and are often asked about coursework as a follow-up to workshops and conferences. MEAC staff suggest they could recruit 30 students a year into the program. Finally, some doctoral programs in the COE have cognate areas or areas of specialization within their programs. The SJE graduate certificate would be appropriate for such an area of specialization. The letters from the COE Chairs in the Appendix provide further details.

Although several universities house programs, academic concentrations or graduate certificates focusing on social justice, very few offer a focus on social justice education. One other online certificate in SJE was found, however, it focuses only on K-12 formal education and is designed for teachers. This certificate is designed for educators who want to "teach for social justice outcomes" as well as individuals working in non-K-12 environments for whom social justice pedagogical competencies are required for maximum social justice outcomes (e.g. Head Start, 4-H and extension, community development, social work, the Peace Corps and AmeriCorps). An interdisciplinary, college-wide approach to providing a graduate certificate is unique nationally and internationally. The delivery method of the certificate addresses a global audience with face-to-face and on-line student participation options.

We have discussed this certificate with individuals across campus who have related programs or interests and have met with strong affirmation and support. These include: Betsy Cauble, Chair, Department of Sociology, Anthropology and Social Work; Mary Tolar, Director, School of Leadership Studies; David Procter, Director, Center for Engagement and Community Development and the Institute for Civic Discourse and Democracy; Terrie McCants, Coordinator of the Graduate Certificate in Conflict Resolution; Susan Allen (retired director of the Women's Center and Torri Dickenson (professor of women's studies), co-coordinators of the Graduate Certificate in Non-violence Studies; Tim Steffensmeier, Chair of the Department of Communication Studies; Yolanda Broyles-Gonzalez, American Ethnic Studies; Eric Hartman, Assistant professor in Leadership Studies; Carol Shanklin, Dean of the Graduate School; he Women's Studies faculty.

V. Description of the Certificate Program Administration

The graduate certificate program in Social Justice Education will be administered under the auspices of the College of Education. A SJE Steering Committee made up of three faculty members, one from each department in the College of Education, and one at-large member will manage the program. For the initial offering of this certificate, the program contact and chair of the Steering Committee will be Susan Yelich-Biniecki (EDLEA). The member at large will be Amanda Morales, the college diversity coordinator. The Dean and the Administrative Council will select other committee members. For the first several iterations of the certificate offering the Steering Committee will be responsible for the development and implementation of the program, including such aspects as recruiting students, managing student programs, overseeing the

delivery of the required courses, and program evaluation. This group will be supported by the Associate Dean of the College of Education, Linda P. Thurston, as well as by the chairs of the COE departments. The Chair of the Department of Educational Leadership, David Thompson, will provide support for the program contact, Dr. Yelich Biniecki.

This certificate program will have an Advisory Council that will provide feedback, assistance and advice as requested related to the ongoing development, implementation and marketing of this program. After the program has been approved and in operation for about a year, we expect to expand the Advisory Council to include well known advocates for social justice education at the national and international level. And example is Dr. Gloria Ladson-Billings, who was the Distinguished Education Researcher for the College in 2013. These individuals have agreed to serve on the Advisory Council at this time: David Procter, Director, Center for Engagement and Community Development and the Institute for Civic Discourse and Democracy; Terrie McCants, Clinical Assistant Professor in Family Studies & Human Services and Coordinator of the certificate programs in conflict resolution; Susan Allen, Emerita director of the Women's Center and co-coordinator of the Graduate Certificate in Non-violence Studies; Tim Steffensmeier, Chair of the Department of Communication Studies; Yolanda Broyles-Gonzalez, University Distinguished Professor and Director of American Ethnic Studies; Eric Hartman, Assistant professor in Leadership Studies; April Grice, program director for the Midwest Equity Assistance Center.

VI. Estimated Budget

The program will be sustained by faculty who are teaching the courses selected by students as part of their graduate certificate programs. The two new courses in the certificate program will become a part of the normal function of the face-to-face and online course offerings. The new courses will be taught by existing faculty on a rotating basis, with the potential to add qualified faculty and instructors if the demand warrants it. The program will be supported by revenue generated from courses and by College of Education resources. The cost to develop the two new courses is being covered by a grant from the Global Campus to Linda Thurston and Susan Yelich-Biniecki, and by existing COE resources. These required courses will be offered on-line through DCE, but may also, in the future, be offered face-to-face.

VII. Names of Faculty Associated With or Contributing to the Certificate

The faculty who will teach College of Education courses in the certificate program and/or who will serve as Steering Committee members or program advisors are: Susan Yelich Biniecki, Doris Carroll, Kakali Bhattacharya, David Thompson, Linda Thurston, Donna Augustine-Shaw, Socorro Herrera, Be Stoney, Jeong-Hee Kim, Jim Teagarden, Jeff Zacharackis, Amanda Morales, Tonnie Martinez, April Grice, and Debbie Mercer.

VIII. Program Coordinator

The certificate program will be coordinated by a Steering Committee, however the primary contact and committee chair will be Susan Yelich Biniecki, in the Department of Educational Leadership. The Office of the Associate Dean and the Department of Educational Leadership will support her.

IX. Student learning outcomes and assessment plan

The Program Logic Model for the K-State Graduate Certificate in Social Justice Education in the College of Education (Figure 1) demonstrates the resources (inputs), the activities of the students within the program, the student outputs/products and the expected outcomes (student learning objectives – SLOs). The Logic Model demonstrates the program's theory of change, that is, how the program activities and requirements are expected to impact program participants. In addition, the Logic Model guides the assessment of student learning, for which measures and metrics are listed.

Student learning outcomes

The program's unique combination of theory and practice addresses these specific student learning outcomes (SLOs). Upon completion of the SJE graduate certificate, participants will:

- Demonstrate knowledge about theoretical perspectives that ground social justice and social justice education
- Understand and apply theory and research that informs the practice of social justice education
- Plan and implement relevant educational practices to promote social justice in formal and non-formal educational settings
- Demonstrate ethical decision-making in the practice of social justice education
- Utilize reflective practice in social justice education

Within formal and non-formal educational settings, the certificate program contributes to fostering social justice through excellent teaching, research, and service that develop a highly skilled and educated citizenry necessary to advancing the well-being of Kansas, the nation, and the international community, which is central to the mission of Kansas State University, a land-grant institution.

Assessment Plan

As demonstrated by the Logic Model in Figure 1, assessment of each learning objective is tied to a specific measure or assessment activity. Consequently, an instrument is defined for each measure or assessment activity. The Assessment of Student Learning Plan (Kansas State University, 2004) is attached, Attachment A.

X. **Endorsements of academic units whose students, courses or programs could be impacted by the graduate certificate in Social Justice Education**

Although there are no academic units who are directly impacted by this certificate program, there are many units on campus who may be interested in our coursework or who may have students who would be interested in this certificate. We have described and discussed this graduate certificate program with several individuals on campus that are involved in academic programming that is somewhat related to the topic of social justice. Those with whom the potential certificate program was discussed are listed in Appendix D. Attached to Appendix D are letters from COE department chairs and from

chairs of non-COE departments that have courses on the possible electives list (Attachment B).

References

Bell, L. A. (1997). Theoretical foundations for social justice education. In P. Griffin (Ed.), *Teaching for diversity and social justice: A sourcebook* (pp. 3–15). New York: Routledge.

Kelly, D. (2012). Teaching for social justice: Translating an anti-oppression approach into practice. *Our Schools/Our Selves, 21*(2), 135-154.

Mayhew, M. & DuLuca Fernandez, S. (2007, Fall). Pedagogical practices that contribute to social justice outcomes. *The Review of Higher Education*, *31*(1), pp. 55–80

Spalding, E., Klecka, C. L., Lin, E., Odell, S. J., and Wang, J. (2010). Social justice and teacher education: A hammer, a bell, and a song. *Journal of Teacher Education, 61*, 191-196.

Degree Program: Graduate Certificate in Social Justice Education
in the College of Education
Assessment of Student Learning Plan
Kansas State University

A. College, Department, and Date

College: College of Education
Department: (this is a cross-college program)
Date:

B. Contact Person(s) for the Assessment Plans

Linda P. Thurston, Ph.D., Associate Dean
Susan Yelich-Biniecki, Ph.D. Assistant Professor

C. Degree Program

Graduate Certificate Program in Social Justice Education

D. Assessment of Student Learning Three-Year Plan

1. Student Learning Outcome(s)

a. List (or attach a list) all the student learning outcomes for the program.

Upon completion of the SJE graduate certificate, participants will:

- Demonstrate knowledge about theoretical perspectives that ground social justice and social justice education
- Understand and apply theory and research that informs the practice of social justice education
- Plan and implement relevant educational practices to promote social justice in formal and non-formal educational settings
- Demonstrate ethical decision-making in the practice of social justice education
- Utilize reflective practice in social justice education

b. Identify outcomes that will be assessed in the first three years of the plan.

- Demonstrate knowledge about theoretical perspectives that ground social justice and social justice education
- Understand and apply theory and research that informs the practice of social justice education

Special rationale for selecting these learning outcomes:

The first two learning outcomes were selected because this is a new graduate certificate program and they are the initial expected outcomes of the 15-credit hour sequence of courses.

Relationship to K-State Student Learning Outcomes (insert the program SLOs and check all that apply):

	University-wide SLOs (Graduate Programs)			Program SLO is conceptually different from university SLOs
Program SLOs	Knowledge	Skills	Attitudes and Professional Conduct	
1. Demonstrate knowledge about theoretical perspectives that ground social justice and social justice education	X			
2. Understand and apply theory and research that informs the practice of social justice education	X	X		
3. Plan and implement relevant educational practices to promote social justice in formal and non-formal educational settings	X	X		
4. Demonstrate ethical decision-making in the practice of SJE			X	
5. Utilize reflective practice in SJE		X	X	

College of Education: Graduate Certificate in Social Justice Education

Alignment Matrix – *For each stated student learning outcome, where does the student have the opportunity to learn the outcome (e.g., specific courses, or other program requirements) and where is the student achievement of the outcome assessed (e.g., assignments in courses, evaluation of final thesis, report, dissertation)?*

Degree Program SLO/Required Courses/Experiences	Capstone field experience/practice and report	Student End of Program Assessment	Opportunities to Learn (X) Courses Listed by Number
Students will demonstrate knowledge about theoretical perspectives that ground social justice and social justice education. (knowledge)	A	A	DED 820, DED 880 Approved electives
Students will understand and apply theory and research that informs the practice of social justice education. (knowledge, skills)	A	A	DED 820, DED 880 Approved electives
Students will plan and implement relevant educational practices to promote social justice in formal and non-formal educational settings. (knowledge, skills)	A	A	DED 820, DED 880 Approved electives
Students will demonstrate ethical decision-making in the practice of social justice education (attitudes and professional practice)	A	A	DED 880
Students will utilize reflective practice in social justice education (skills, attitudes and professional conduct)	A	A	DED 880 Approved electives
University SLO's			
Knowledge	A	A	
Skills	A	A	
Attitudes and Professional Conduct	A	A	

• Place an "X" for courses or experiences in which students have the opportunity to learn the outcome (coursework, other program requirements). • Place an "A" for courses or experiences in which student performance is used for program level assessment of the outcome (assignments in course, evaluation of final thesis, report, dissertation).

2. How will the learning outcomes be assessed? What groups will be included in the assessment?

The following evidence will be collected during the first three years of the certificate program for all students in the program. We do not assume that there will be numerous completers during the first three years. Therefore, the data on student learning will focus primarily on the first required course, DED 820, as well as the logistics of the program, in order to improve the coursework as well as improve the delivery of the courses and the design and logistics of the certificate program.

(1) Demonstrate knowledge about theoretical perspectives that ground social justice and social justice education (SJE)

- 1a. Total of cumulative individual scores for discussions using the Rubric for Participation in Online Discussions for DED 820 (direct)
- 1b. Individual student scores on Positionality Essay using Grading Rubric for Positionality Essay in DED 820 (direct)
- 1c. Individual student percent correct on knowledge test about theory and theoretical perspectives related to social justice and social justice education in DED 820 (direct)
- 1d. Student Self-Assessment of SLO, to promote reflective practice (SLO 5) in DED 820 and DED 880 (indirect)
- 1e. Data from surveys about student knowledge about theoretical perspectives that ground social justice and social justice education completed by faculty who teach the elective courses taken by students in the certificate program (at completion of certificate program – may to be used in first 3 years of the program) (indirect)
- 1f. Total percent score on ratings on the "knowledge base" section of Capstone SJE Experience Rating Scale by at least two members of the Steering Committee (at completion of certificate program – may to be used in first 3 years of the program) (direct)

(2) Understand and apply theory and research that informs the practice of SJE

- 2a. Individual student scores on Social Justice Education: Current State and Future Possibilities essay, using the Grading Rubric for SJE: Current State and Future Possibilities in DED 820 (direct)
- 2b. Individual student scores on Collaborative Film Analysis project using Grading Rubric for Film Analysis in DED 820 (direct)
- 2c. Student Self-Assessment of SLO, to promote reflective practice (SLO 5) (at completion of certificate program – may to be used in first 3 years of the program) (indirect)
- 2d. Individual student scores on checklist for SJE Initiative Proposal, using SJE Initiative Checklist, proposal section, DED 880 (at completion of certificate program – may to be used in first 3 years of the program) (direct)
- 2e. Data from surveys about perceptions of student knowledge about research related to SJE and application of research to completed by faculty who

teach the elective courses taken by students in the certificate program (at completion of certificate program – may to be used in first 3 years of the program) (indirect)

As students complete the certificate, exit interviews will be used to assess their knowledge about social justice education theory and practice, their capacity for self-reflection and improvement, and their self-describe learning from the program. In addition, a survey of completers will be used to assess the quality of faculty and student experiences in the program, suggestions for improvement, and intentions for future graduate student and professional practice related to social justice education.

All students accepted to and enrolled in courses related to the SJE Graduate Certificate will be included in these assessments for the first three years of the program. As the program grows, a random sample of students in the program will be selected. We also plan in the future to collect data only from program completers.

3. When will these outcomes be assessed? When and in what format will the results of the assessment be discussed?

Data will be collected on a semester basis, with DED 820 faculty, Certificate Coordinator, and advisors providing data as described above for the SJE program evaluation database designed for the project and set up on Canvas. For example, at the conclusion of DED 820, the required introduction course, the course instructor will enter the data related to that course (1a, 1b, 1c, 2a, 2b) for individual students on the password-protected site. Students will meet with their advisors and review their SJE Learning Plan, scores on course activities, and self-assessments (1d, 2c). These will be entered on Canvas by the advisor. Advisors will lead students in learning to reflect on course and professional practice related to social justice education principles. Advisors will also note feedback from students about the helpfulness of the course in facilitating student learning of the SLOs.

Every semester, the Coordinator and the COE Associate Dean for Research will summarize and provide representations of the assessment data. These data will be provided as individual student data (not identified) and group data once a semester (3 X annually) to the Steering Committee. This will allow close scrutiny of student learning by providing individual student tracking of learning across time and group data across semesters to note trends and to provide input for program improvement.

Year 1:

Summer semester: Collect and analyze individual and group data for 1a-d and 2a-c; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee.
Fall semester: Collect and analyze individual and group data for 1a-d, 2a-c, and 1e and 2e, if applicable; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee.
Spring semester: Collect and analyze individual and group data for 1a-d, 2a-c and 1e and 2e, if applicable; summarize and analyze data for Steering Committee;

meeting of Coordinator and Steering committee to plan actions for program improvement.

Year 2:

Summer semester: Collect and analyze individual and group data for 1a-d and 2a-c; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee.

Fall semester: Collect and analyze individual and group data for 1a-d, 2a-c, and 1e and 2e, if applicable; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee.

Spring semester: Collect and analyze individual and group data for 1a-d, 2a-c, and 1e and 2e, if applicable; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee to look at actions planned and design changes in plan if indicated by data.

Year 3:

Summer semester: Collect and analyze individual and group data for 1a-d and 2a-c; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee. Committee will plan continuing assessment plan for after the first three years of the program.

Fall semester: Collect and analyze individual and group data for 1a-d, 2a-c, and 1e and 2e, if applicable; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee.

Spring semester: Collect and analyze individual and group data for 1a-d, 2a-c, and 1e and 2e, if applicable; summarize and analyze data for Steering Committee; meeting of Coordinator and Steering committee and examine results of program improvement plan and revise plan as indicated by data.

During the first three years of the certificate program, the Coordinator and the Steering Committee will meet three times a year to review the data on Canvas and to examine other formative evaluation data that will be collected for the purpose of program improvement.

The Coordinator will develop a brief summary of the findings from the data with recommendations for course instructors, advisors, and general program improvements.

4. What is the unit's process for using assessment results to improve student learning?

The Certificate Coordinator and the Steering Committee will meet at least annually to review the data collected as described above and discuss the Coordinator's summary and recommendations. This group will consult with COE faculty who teach the array of optional courses that make up choices of elective courses. Recommendations for program improvement to improve student learning will be discussed and plans will be made for implementing the changes, which will be reviewed at the next annual meeting. The Steering Committee meets three times a year; this review of assessment data will take place on the final meeting of each academic year.

Non-Expedited Curriculum Changes

Master of Music

FROM:	TO:
Piano pedagogy	**Piano pedagogy**
Major field	**Major field**
6 hours individual instruction and the following courses: • MUSIC 821 - Piano Pedagogy I **Credits:** (3) • MUSIC 822 - Piano Pedagogy II **Credits:** (3) • MUSIC 823 - Supervised Teaching in Piano **Credits:** (2) • MUSIC 824 - Half Recital in Piano **Credits:** (1) • MUSIC 825 - Lecture Recital in Piano **Credits:** (1)	6 hours individual instruction and the following courses: • MUSIC 821 - Piano Pedagogy I **Credits:** (3) • MUSIC 822 - Piano Pedagogy II **Credits:** (3) • MUSIC 823 - Supervised Teaching in Piano **Credits:** (2) • MUSIC 824 - Half Recital in Piano **Credits:** (1) • MUSIC 825 - Lecture Recital in Piano **Credits:** (1)
Master's report (recital)	**Master's report (recital)**
In place of a master's recital and report, all students will present a lecture–recital that will be musically-illustrated presentation on some aspect of piano pedagogy.	In place of a master's recital and report, all students will present a lecture–recital that will be musically-illustrated presentation on some aspect of piano pedagogy. MUSIC 824 and MUSIC 825 will replace the two credits of MUSIC 898 Graduate Report.

RATIONALE: This change reflects the revisions made in response to the NASM accreditation visit.

IMPACT: Graduate School, Dr. Carol Shanklin has approved this change in an email dated April 23, 2014.

EFFECTIVE DATE: Spring 2015