

**Supplemental Information - Curriculum proposals**  
**FS Academic Affairs Committee Review**  
**April 3, 2018 Meeting**

**Agriculture – Pages 2-11 (items on hold at Exec)**

**Arts and Sciences – Pages 12-16**

**Business Administration – Pages 17-21**

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**Human Ecology – Pages 27-29**

**Technology & Aviation – Pages 30-32**

**Veterinary Medicine – 33-73**

**Agriculture**  
**Horticulture and Natural Resources**

**B.S. in Agriculture: Golf Course and Sports Turf Management Option**  
[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=12965](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12965)

FROM:

TO:

|                                                                          |                                                               |
|--------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Technical Core</b> (14 hours)                                         | <b>Technical Core</b> (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)                                 |
| Statistics elective (3)                                                  | Statistics elective (3)                                       |
| <b>Communications and Interpersonal Relations</b> (17 hours)             | <b>Communications and Interpersonal Relations</b> (17-19 hrs) |
| COMM 105 - Public Speaking IA (2)                                        | COMM 105 - Public Speaking IA (2)                             |
| ENGL 100 - Expository Writing I (3)                                      | ENGL 100 - Expository Writing I (3)                           |
| ENGL 200 - Expository Writing II (3)                                     | ENGL 200 - Expository Writing II (3)                          |
| Communication electives (9)                                              | Communication electives (9-11)                                |
| <b>Internship</b> (7 hours)                                              | <b>Internship</b> (7 hours)                                   |
| HORT 190* Preparing for your Horticulture Career (1)                     | HORT 190* Preparing for your Horticulture Career (1)          |
| HORT 590* Hort. Internship (golf facility) (3)                           | HORT 590* Hort. Internship (golf facility) (6)                |
| <del>Plus a second internship as listed below:</del>                     |                                                               |
| <del>HORT 590* Horticulture Internship (3)</del>                         | HORT 599 The Hort. Professional (0)                           |
| <del>OR</del>                                                            |                                                               |
| <del>HMD 495* Golf Course Internship in Hospitality Management (3)</del> |                                                               |
| HORT 599 The Hort. Professional (0)                                      |                                                               |
| <b>Humanities and Social Sciences</b> (12-14 hours)                      | <b>Humanities and Social Sciences</b> (6 hours)               |
| ECON 110* Prin. of Macroeconomics (3)                                    | ECON 110* Prin. of Macroeconomics (3)                         |
| ECON 120* Prin. of Microeconomics (3)                                    | <del>OR</del>                                                 |
| <del>OR</del>                                                            | ECON 120* Prin. of Microeconomics (3)                         |
| AGEC 120* Agric. Econ. & Agribus. (3)                                    | <del>OR</del>                                                 |
| <del>Foreign Language elective (3-5)</del>                               | AGEC 120* Agric. Econ. & Agribus. (3)                         |
| Humanities and Soc. Sci. electives (3)                                   | Humanities and Soc. Sci. electives (3)                        |
| <b>Business Management</b> (15 hours)                                    | <b>Business Management</b> (15 hours)                         |
| ACCTG 231* Accounting for Bus. Op. (3)                                   | ACCTG 231* Accounting for Bus. Op. (3)                        |
| ACCTG 241* Accounting for Inv. & Fin. (3)                                | ACCTG 241* Accounting 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)                              |
| <b>Turf Management Specialization</b> (41-42 hours)                      | <b>Turf Management Specialization</b> (43-44 hours)           |
| AGRON 305* Soils (4)                                                     | AGRON 305* Soils (4)                                          |
| <del>AGRON 375* Soil Fertility (3)</del>                                 | HORT 201* Prin. of Hort. Science (4)                          |
| HORT 201* Prin. of Hort. Science (4)                                     | HORT 350 Plant Propagation (3)                                |
| HORT 350 Plant Propagation (3)                                           | Hort 374 Landscape Plants I (3)                               |
| Hort 374 Landscape Plants I (3)                                          | HORT 515* Basic Turfgrass Culture (3)                         |
| HORT 515* Basic Turfgrass Culture (2)                                    | <del>HORT 550 Horticultural Irrig. Systems (3)</del>          |
| <del>HORT 516* Int. Cult. Golf/Sports Turf (1)</del>                     | <del>HORT 508 Sustainable Land. Maint. Practices (2)</del>    |
| <del>HORT 517 Golf &amp; Sports Turf Op. (3)</del>                       | <del>or</del>                                                 |
| <del>HORT 550 Landscape Irrig. Systems (3)</del>                         | <del>HORT 585 Arboriculture (3)</del>                         |
|                                                                          | HORT 570 Greenhouse Op. Management (3)                        |

|                                             |                         |                                                        |                           |
|---------------------------------------------|-------------------------|--------------------------------------------------------|---------------------------|
| HORT 582 Foundations of Hort. Pest Mgt.     | (1)                     | <u>OR</u>                                              |                           |
| HORT 587* Turfgrass Disease Mgt.            | (1)                     | <u>HORT 600 Herbaceous Crop Production</u>             | (3)                       |
| HORT 588* Turfgrass Weed Mgt.               | (1)                     | HORT 582 Foundations of Hort. Pest Mgt.                | (1)                       |
| <del>ENTOM 589* Turfgrass Insect Mgt.</del> | <del>(1)</del>          | HORT 587* Turfgrass Disease Mgt.                       | (1)                       |
| <del>HORT 706 Turfgrass Science</del>       | <del>(3)</del>          | HORT 588* Turfgrass Weed Mgt.                          | (1)                       |
| PLPTH 500* Prin. of Plant Pathology         | (3)                     | <u>HORT 706 Advanced Culture of Golf</u>               |                           |
| Environmental elective                      | (3)                     | <u>and Sports Turf</u>                                 | (3)                       |
| Horticulture elective                       | (2-3)                   | <u>Entomology elective</u>                             | (3)                       |
|                                             |                         | PLPTH 500* Prin. of Plant Pathology                    | (3)                       |
|                                             |                         | Environmental elective                                 | (3)                       |
|                                             |                         | Horticulture elective                                  | (3)                       |
| <b>Hospitality electives</b>                | (9 hours)               | <b>Hospitality electives</b>                           | (9 hours)                 |
| Select 9 hours from the following list:     |                         | Select 9 hours from the following list:                |                           |
| 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 424 Hosp. Marketing & Sales                        | (3)                       |
| HMD 621 Hospitality Law                     | (3)                     | HMD 621 Hospitality Law                                | (3)                       |
| <b>Free electives</b>                       | <del>(8-11 hours)</del> | <b>Free electives</b>                                  | <u>(6-9 hours)</u>        |
| <b>Total Credit Hours</b>                   | <b>(426 hours)</b>      | <b>Total Credit Hours</b>                              | <b><u>(120 hours)</u></b> |
| <b>Electives From Which to Choose:</b>      |                         | <b>Electives From Which to Choose:</b>                 |                           |
| <b>Business Management Electives</b>        | <b>3</b>                | <b>Business Management Electives</b>                   | <b>3</b>                  |
| AGEC 202* Small Business Operations         | 3                       | AGEC 202* Small Business Operations                    | 3                         |
| FINAN 450* Principles of Finance            | 3                       | FINAN 450* Principles of Finance                       | 3                         |
| MANGT 390* Business Law I                   | 3                       | MANGT 390* Business Law I                              | 3                         |
| ENTRP 340* Intro. to Entrepreneurship       | 3                       | ENTRP 340* Intro. to Entrepreneurship                  | 3                         |
| FINAN 460* Insurance                        | 3                       | FINAN 460* Insurance                                   | 3                         |
| MKTG 450* Consumer Behavior                 | 3                       | MKTG 450* Consumer Behavior                            | 3                         |
| <b>Communications Electives</b>             | <b>9</b>                | <b>Communications Electives</b>                        | <b><u>9-11</u></b>        |
| 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 322* Interpersonal Comm.                          | 3                         |
| COMM 323* Nonverbal Comm.                   | 3                       | COMM 323* Nonverbal Comm.                              | 3                         |
| COMM 325* Argumentation & Debate            | 3                       | COMM 325* Argumentation & Debate                       | 3                         |
| COMM 326* Small Group Disc. Meth.           | 3                       | COMM 326* Small Group Disc. Meth.                      | 3                         |
|                                             |                         | <u>Any introductory (or higher) course in a Modern</u> |                           |
|                                             |                         | <u>Language.</u>                                       | <u>3-5</u>                |
| <b>Environmental Elective</b>               | <b>3</b>                | <b>Environmental Elective</b>                          | <b>3</b>                  |
| AGRON 335* Environmental Quality            | 3                       | AGRON 335* Environmental Quality                       | 3                         |
| PMC 275* Intro. to Natural Resource Mgt.    | 3                       | PMC 275* Intro. to Natural Resource Mgt.               | 3                         |
| HORT 405* Water Iss./Lawn & Landscape       | 3                       | HORT 405* Water Iss./Lawn & Landscape                  | 3                         |
| LAR 322* Env. Issues & Ethics               | 3                       | LAR 322* Env. Issues & Ethics                          | 3                         |

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| <b>Foreign Language Elective</b> <b>3-5</b><br>Any introductory (or higher) course in a Modern Language. One of the following is preferred:<br>SPAN 161* Spanish 1 5<br>SPAN 162* Spanish 2 5<br>SPAN 261* Spanish 3 5<br>SPAN 361* Spanish 4 4<br><br><b>Horticulture Elective</b> <b>2-3</b><br>AGRON 746 Physical Properties of Soil 3<br>HORT 375 Landscape Plants II 3<br>HORT 405* Water Iss./Lawn & Landscape 3<br>HORT 508* Sust. Landscape Maint. Pract. 2<br>HORT 585* Arboriculture 3<br>HORT 790* Sustainable Agriculture 2<br>PLPTH 590* Landscape Diseases 2<br><br><b>Statistics Elective</b> <b>3</b><br>STAT 325* Intro. to Statistics 3<br>STAT 340* Biometrics I 3<br>STAT 350* Bus. and Economic Statistics I 3 | <b>Horticulture Elective</b> <b>2-3</b><br><u>AGRON 375 – Soil Fertility</u> 3<br>AGRON 746 Physical Properties of Soil 3<br>HORT 375 Landscape Plants II 3<br>HORT 405* Water Iss./Lawn & Landscape 3<br>HORT 508* Sust. Landscape Maint. Pract. 2<br>HORT 585* Arboriculture 3<br>(HORT 508 or 585 cannot be taken to fulfill <i>both</i> Turf Mgmt Specialization and Hort Elective requirement)<br>HORT 790* Sustainable Agriculture 2<br>PLPTH 590* Landscape Diseases 2<br><br><b>Statistics Elective</b> <b>3</b><br>STAT 325* Intro. to Statistics 3<br>STAT 340* Biometrics I 3<br>STAT 350* Bus. and Economic Statistics I 3<br><br><b>Entomology Elective</b> <b>3</b><br><u>ENTOM 312 General Entomology</u> 3<br><u>ENTOM 320 Economic Entomology</u> 3 |
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**RATIONALE:**

This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

**IMPACT:**

These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication).

**Horticulture (B.S.) - Horticulture Production Option**

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=12967](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12967)

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| <b>Communications</b> (14-16 hours)<br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br>COMM 105 - Public Speaking IA (2)<br><del>Communication elective</del> (3)<br>Modern Language elective (3-5)<br><br><b>Humanities/Social Sciences Electives</b> (6 hours)<br>Elective (3)<br>Elective (3)<br><br><b>Quantitative Sciences</b> (15 hours)<br>BIOCHM 265* - Intro. Organic Biochemistry (5)<br>CHM 110* - General Chemistry (3)<br>and | <b>Communications</b> (11-13 hours)<br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br>COMM 105 - Public Speaking IA (2)<br>Communication/Non-English Language elective (3-5)<br><br><b>Humanities/Social Sciences Electives</b> (6 hours)<br>Elective (3)<br>Elective (3)<br><br><b>Quantitative Sciences</b> (15 hours)<br>BIOCHM 265* - Intro. Organic Biochemistry (5)<br>CHM 110* - General Chemistry (3)<br>and<br>CHM 111* - General Chemistry Laboratory (1) |
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|----------------------------------------------------------|--------------------------------------------------------------------|
| CHM 111* - General Chemistry Laboratory (1)              | MATH 100* – College Algebra (3)                                    |
| MATH 100* – College Algebra (3)                          | Math/Physics/Statistics elective (3)                               |
| <b>Biological/Environmental Sciences (24-25 hours)</b>   | <b>Biological/Environmental Sciences (24-25 hours)</b>             |
| AGRON 305* - Soils (4)                                   | AGRON 305* - Soils (4)                                             |
| BIOL 198* - Principles of Biology (4)                    | BIOL 198* - Principles of Biology (4)                              |
| BIOL 500 – Plant Physiology (3-4)                        | BIOL 500 – Plant Physiology (3-4)                                  |
| HORT 201* – Princ. of Horticulture Science (4)           | HORT 201* – Princ. of Horticulture Science (4)                     |
| PLPTH 500* – Princ. Plant Pathology (3)                  | PLPTH 500* – Princ. Plant Pathology (3)                            |
| Environmental Science/Biology elective (3)               | Environmental Science/Biology elective (3)                         |
| Entomology elective (3)                                  | Entomology elective (3)                                            |
| <b>Econ/Business Electives (15-hours)</b>                | <b>AgEcon/Econ/Business/Entrepreneurship (12 hours)</b>            |
| ACCTG 231* – Accounting for Bus. Ops. (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)                 | Or                                                                 |
| <del>Econ./Business electives (9)</del>                  | <u>AGEC 120* Agr. Econ. and Agribus. (3)</u>                       |
| <b>Horticulture Core Requirements (14 hours)</b>         | <u>ACCTG 231* – Accounting for Bus. Ops. (3)</u>                   |
| HORT 190* - Preparing for your Horticulture Career (1)   | <u>Ag.Econ./Econ/Business/Entrepreneurship Elective (3)</u>        |
| HORT 350 – Plant Propagation (3)                         | <u>Ag.Econ./Econ/Business/Entrepreneurship Elective (3)</u>        |
| HORT 374 – Landscape Plants I (3)                        | <b>Horticulture Core Requirements (23 hours)</b>                   |
| HORT 520* – Fruit Production (3)                         | HORT 190* - Preparing for your Horticulture Career (1)             |
| or                                                       | HORT 350 – Plant Propagation (3)                                   |
| HORT 560* – Vegetable Crop Production (3)                | HORT 374 – Landscape Plants I (3)                                  |
| or                                                       | HORT 520* – Fruit Production (3)                                   |
| HORT 570* – Greenhouse Operations Mgmt. (3)              | or                                                                 |
| or                                                       | HORT 560* – Vegetable Crop Production (3)                          |
| <del>HORT 575* – Nursery Management (3)</del>            | <u>HORT 550 – Horticultural Irrigation Systems (3)</u>             |
| HORT 582 – Foundations of Hort. Pest Mgt. (1)            | HORT 570* – Greenhouse Operations Mgmt. (3)                        |
| HORT 590* – Hort. Internship (3)                         | HORT 582 – Foundations of Hort. Pest Mgt. (1)                      |
| HORT 599 – Hort. Professional (0)                        | HORT 590* – Hort. Internship (3)                                   |
| <b>Horticulture Production Specialization (14 hours)</b> | HORT 599 – Hort. Professional (0)                                  |
| HORT 375 – Landscape Plants II (3)                       | <u>HORT 600 – Herbaceous Crop Production (3)</u>                   |
| PLPTH 590 – Landscape Diseases (2)                       | <b>Horticulture Production Specialization (26 hours)</b>           |
| OR                                                       | HORT 375 – Landscape Plants II (3)                                 |
| <del>Pest Mgmt. Elective (2)</del>                       | PLPTH 590 – Landscape Diseases (2)                                 |
| <del>HORT 600* – Herbaceous Crop Production (3)</del>    | OR                                                                 |
| Plus, choose two of the following courses:               | <u>HORT 587* Turfgrass Disease Mgt. (1)</u>                        |
| <del>HORT 520* – Fruit Production (3)</del>              | <u>HORT 588* Turfgrass Weed Mgt. (1)</u>                           |
| <del>HORT 560* – Vegetable Crop Production (3)</del>     | <u>Plus, select 21 credit hours from the list below.(21 hours)</u> |
| <del>HORT 570* – Greenhouse Operations Mgmt. (3)</del>   | HORT 210 – Concepts of Floral Design (3)                           |
| <b>Specialization Electives (20 hours)</b>               | HORT 275* – Horticultural Design 1 (3)                             |
| Select 20-credit hours from the list below.              | HORT 301 – Horticulture Practicum (1-3)                            |
| HORT 210 – Concepts of Floral Design (3)                 | <u>HORT 390 – Horticulture Topics (1-3)</u>                        |
|                                                          | <del>HORT 325* – Intro. Organic Farming (2)</del>                  |
|                                                          | <u>HORT 377 – Interior Landscaping (3)</u>                         |

|                                                            |                           |                                                            |                           |
|------------------------------------------------------------|---------------------------|------------------------------------------------------------|---------------------------|
| HORT 275* – Horticultural Design I                         | (3)                       | AGRON 330* – Weed Science                                  | (3)                       |
| HORT 325* – Intro. Organic Farming                         | (2)                       | AGRON 375 – Soil Fertility                                 | (3)                       |
| AGRON 330* – Weed Science                                  | (3)                       | <u>HORT 495 – Undergraduate Research in Hort.</u>          | (3)                       |
| AGRON 375 – Soil Fertility                                 | (3)                       | HORT 508 – Sustainable Land. Maint. Practices              | (2)                       |
| HORT 508 – Sustainable Land. Maint. Practices              | (2)                       | HORT 515* – Basic Turfgrass Culture                        | (3)                       |
| HORT 515* – Basic Turfgrass Culture                        | (2)                       | HORT 520* – Fruit Production                               | (3)                       |
| HORT 520* – Fruit Production                               | (3)                       | HORT 551 – Landscape Contracting/Constr.                   | (3)                       |
| HORT 550 – Landscape Irrigation Systems                    | (3)                       | HORT 560* – Vegetable Crop Production                      | (3)                       |
| HORT 551 – Landscape Contracting/Constr.                   | (3)                       | HORT 575* – Nursery Management                             | (3)                       |
| HORT 560* – Vegetable Crop Production                      | (3)                       | HORT 585* – Arboriculture                                  | (3)                       |
| <del>HORT 570* – Greenhouse Operations Mgmt.</del>         | <del>(3)</del>            | <u>HORT 595* – Horticulture Study Abroad</u>               | (3)                       |
| HORT 575* – Nursery Management                             | (3)                       | HORT 640 – Horticulture Problems                           | (0-3)                     |
| HORT 585* – Arboriculture                                  | (3)                       | HORT 625* – Floral Crops Prod./Handling                    | (2)                       |
| <del>HORT 640 – Prb./Landscape Irrigation Design</del>     | <del>(3)</del>            | HORT 710 – Plant Cell, Tissue & Organ Cult.                | (3)                       |
| HORT 625* – Floral Crops Prod./Handling                    | (2)                       | HORT 780 – Health-Promoting Phytochemicals:                |                           |
| HORT 710 – Plant Cell, Tissue & Organ Cult.                | (3)                       | Fruits and Vegetables                                      | (2)                       |
| HORT 780 – Health-Promoting Phytochemicals:                |                           | HORT 790* – Sustainable Agriculture                        | (2)                       |
| Fruits and Vegetables                                      | (2)                       | HORT 791* – Urban Agriculture                              | (2)                       |
| HORT 790* – Sustainable Agriculture                        | (2)                       | <u>Any Biology or Agronomy course 300 or above</u>         | (3)                       |
| HORT 791* – Urban Agriculture                              | (2)                       |                                                            |                           |
| PLPTH 590 – Landscape Diseases                             | (2)                       |                                                            |                           |
| <b>Free Electives</b>                                      | <b>(0-5 credit hours)</b> | <b>Free Electives</b>                                      | <b>(0-3 credit hours)</b> |
| <b>Total Credits for Graduation</b>                        | <b>(426-credit hours)</b> | <b>Total Credits for Graduation</b>                        | <b>(120 credit hours)</b> |
| <b>DESIGNATED ELECTIVES</b>                                |                           | <b>DESIGNATED ELECTIVES</b>                                |                           |
| (NOTE: Confer with advisor to select appropriate courses.) |                           | (NOTE: Confer with advisor to select appropriate courses.) |                           |
| <b>Econ./Business Electives</b>                            | <b>(9-hours)</b>          | <b>AgEcon/Econ/Business/Entreprn. Electives</b>            | <b>(12 hours)</b>         |
| Any ACCTG course 200 or above excl. ACCTG 231              |                           | Any ACCTG course 200 or above excl. ACCTG 231              |                           |
| AGEC 120* Agr. Econ. and Agribus. 3 (F,S)                  |                           | <u>Econ 110 Macroeconomics 3</u>                           |                           |
| (Select only if ECON 120 not taken)                        |                           | AGEC 120* Agr. Econ. and Agribus. 3 (F,S)                  |                           |
| Any AGECE course 200 or above                              |                           | (Select only if ECON 120 not taken)                        |                           |
| Any MANGT course 300 or above                              |                           | Any AGECE course 200 or above                              |                           |
| MC 120* Principles of Advertising 3 (F,S)                  |                           | Any MANGT course 300 or above                              |                           |
| MC 180 Fund. of Public Relations 3 (F,S)                   |                           | MC 120* Principles of Advertising 3 (F,S)                  |                           |
| Any MKTG course 300 or above                               |                           | MC 180 Fund. of Public Relations 3 (F,S)                   |                           |
| Any ECON course 300 or above                               |                           | Any MKTG course 300 or above                               |                           |
|                                                            |                           | Any ECON course 300 or above                               |                           |
| <b>Communications Electives</b>                            | <b>3</b>                  | <u>Any Entrepreneurship course</u>                         |                           |
| <del>AGCOM 400 Agric. Business Comm.</del>                 | <del>3</del>              |                                                            |                           |
| <del>ENGL 300 Expository Writing III</del>                 | <del>3</del>              | <b>Communications Electives</b>                            | <b>3-5</b>                |
| <del>ENGL 516 Written Comm. for the Sei.</del>             | <del>3</del>              | <u>Includes any course at 300-level or above from:</u>     |                           |
| <del>MKTG 542* Personal Selling &amp; Sales Mgt.</del>     | <del>3</del>              | <u>AGCOM, COMM, or ENGL</u>                                |                           |
| <del>COMM 311* Bus. and Prof. Speaking</del>               | <del>3</del>              | <u>or HORT 595 Horticulture Study Abroad</u>               |                           |
| <del>COMM 321* Public Speaking II</del>                    | <del>3</del>              | <u>or any non-English language course.</u>                 |                           |
| <del>COMM 322* Interpersonal Comm.</del>                   | <del>3</del>              | <b>Entomology Elective</b>                                 | <b>3</b>                  |
| <del>COMM 323* Nonverbal Comm.</del>                       | <del>3</del>              | ENTOM 300 Economic Entomology                              | 3                         |
| <del>COMM 325* Argumentation &amp; Debate</del>            | <del>3</del>              | ENTOM 312* General Entomology                              | 3                         |

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| <p><del>COMM 326* Small Group Disc. Meth.</del> 3</p> <p><b>Entomology Elective</b> 3 hrs.</p> <p>ENTOM 300* Economic Entomology 3 (S)</p> <p>ENTOM 312* General Entomology 3 (F)</p> <p><del>ENTOM 320* Horticultural Entomology 3 (F)</del></p> <p><b>Environmental Elective</b> 3</p> <p>AGRON 335* Environmental Quality 3</p> <p>PMC 275* Intro. to Natural Resource Mgt. 3</p> <p>HORT 405* Water Iss./Lawn &amp; Landscape 3</p> <p>LAR 322* Env. Issues &amp; Ethics 3</p> <p><b>Foreign Language Elective</b> 3-5</p> <p>Any introductory (or higher) course in a Modern Language. Preferred course:</p> <p><del>SPAN 161* Spanish I</del> 5</p> <p><b>Plant Materials Elective</b> 6 hrs.</p> <p><del>HORT 374 Landscape Plants I 3 (F)</del></p> <p><del>HORT 375 Landscape Plants II 3 (S)</del></p> <p><b>Statistics Elective</b> 3</p> <p>STAT 325* Intro. to Statistics 3</p> <p>STAT 340* Biometrics I 3</p> <p>STAT 350* Bus. and Economic Statistics I 3</p> | <p><b>Environmental Science Elective</b> 3</p> <p>AGRON 335* Environmental Quality 3</p> <p>PMC 275* Intro. to Natural Resource Mgt. 3</p> <p>HORT 405* Water Iss./Lawn &amp; Landscape 3</p> <p>LAR 322* Env. Issues &amp; Ethics 3</p> <p><b>Statistics Elective</b> 3</p> <p>STAT 325* Intro. to Statistics 3</p> <p>STAT 340* Biometrics I 3</p> <p>STAT 350* Bus. and Economic Statistics I 3</p> |
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**RATIONALE:**

This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

**IMPACT:**

These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication).

**Horticulture (B.S.) - Horticulture Science Option –**

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=12963](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12963)

| Communications (17-19 credit hours)        | Communications (14-16 hours)         |
|--------------------------------------------|--------------------------------------|
| ENGL 100 - Expository Writing I (3)        | ENGL 100 - Expository Writing I (3)  |
| ENGL 200 - Expository Writing II (3)       | ENGL 200 - Expository Writing II (3) |
| COMM 105 - Public Speaking IA (2)          | COMM 105 - Public Speaking IA (2)    |
| <del>Foreign Language Elective (3-5)</del> | Writing Elective (3)                 |
| <del>Speech Elective (3)</del>             | Communication elective (3-5)         |

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| Writing Elective (3)                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Humanities/Social Sciences Electives (6 credit hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Humanities/Social Sciences Electives (6 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| GEOG 100—World Regional Geography (3)<br>or<br>PSYCH 110—General Psychology (3)<br>or<br>SOCIO 211—Intro to Sociology (3)<br>Humanities elective (3)                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Quantitative Sciences (22 credit hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Quantitative Sciences (22 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CHM 210 – Chemistry I (4)<br>CHM 230 – Chemistry II (4)<br>CHM 350 – Gen. Organic Chemistry (3)<br>MATH 205 – Gen. Calc. & Lin. Algebra (3)<br>PHYS 115 – Descriptive Physics (5)<br>Statistics Elective (3)                                                                                                                                                                                                                                                                       | CHM 210 – Chemistry I (4)<br>CHM 230 – Chemistry II (4)<br>CHM 350 – Gen. Organic Chemistry (3)<br>MATH 205 – Gen. Calc. & Lin. Algebra (3)<br>PHYS 115 – Descriptive Physics (5)<br>Statistics Elective (3)                                                                                                                                                                                                                                                                                                         |
| <b>Agric./Biological Sciences (<del>33</del> 34 credit hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Agric./Biological Sciences (35-36 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AGRON 305 - Soils (4)<br>ASI 500 – Genetics (3)<br>or<br>BIOL 450 – Modern Genetics (3)<br>BIOCH 521 – Gen. Biochemistry (3)<br>BIOCH 522 – Gen. Biochemistry Lab (2)<br>BIOL 198 - Principles of Biology (4)<br>BIOL 500 – Plant Physiology (3)<br>BIOL 501 – Plant Physiology Lab (1)<br>HORT 201 – Princ. of Horticulture Science (4)<br>PLPTH 500 – Princ. Plant Pathology (3)<br>PLPTH 590 –Landscape Plant Diseases (2)<br>Biology Elective (3-4)<br>Entomology Elective (3) | AGRON 305 - Soils (4)<br>ASI 500 – Genetics (3)<br>or<br>BIOL 450 – Modern Genetics (3)<br>BIOCH 521 – Gen. Biochemistry (3)<br>BIOCH 522 – Gen. Biochemistry Lab (2)<br>BIOL 198 - Principles of Biology (4)<br>BIOL 500 – Plant Physiology (3)<br>BIOL 501 – Plant Physiology Lab (1)<br>HORT 201 – Princ. of Horticulture Science (4)<br>PLPTH 500 – Princ. Plant Pathology (3)<br>PLPTH 590 –Landscape Plant Diseases (2)<br>Biology Elective/ <u>Environmental Sci. Elect.</u> (3-4)<br>Entomology Elective (3) |
| <b>Ag. Econ./Business Electives (6 credit hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>AgEcon/Econ/Business Elect. (6 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACCTG 231 – Accounting for Bus. Oper. (3)<br>ECON 110 – Princ. of Macroeconomics (3)<br>or<br>ECON 120 – Princ. of Microeconomics (3)                                                                                                                                                                                                                                                                                                                                              | ACCTG 231 – Accounting for Bus. Oper. (3)<br>ECON 110 – Princ. of Macroeconomics (3)<br>Or<br>ECON 120 – Princ. of Microeconomics (3)<br>or<br><u>AGEC 120 Agr. Econ. and Agribus.</u> (3)                                                                                                                                                                                                                                                                                                                           |
| <b>Horticulture Requirement (<del>19</del> 20 credit hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Horticulture Requirement (23 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HORT 190- Pre-Internship in Horticulture (1)<br>HORT 350 – Plant Propagation (3)<br>HORT 520 – Fruit Production (3)                                                                                                                                                                                                                                                                                                                                                                | HORT 190- Pre-Internship in Horticulture (1)<br>HORT 350 – Plant Propagation (3)<br>HORT 520 – Fruit Production (3)                                                                                                                                                                                                                                                                                                                                                                                                  |

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| or<br>HORT 560 – Vegetable Crop Production (3)<br>HORT 570 – Greenhouse Ops. Mgt. (3)<br>HORT 582 – Foundations of Hort. Pest Mgt. (1)<br>HORT 590 – Hort. Internship (2-3)<br>HORT 599 – The Horticultural Professional (0)<br>HORT 710 – Plant Cell. Tissue & Organ Cult. (3)<br><del>Environmental Science Elective (3)</del> | or<br>HORT 560 – Vegetable Crop Production (3)<br>HORT 570 – Greenhouse Ops. Mgt. (3)<br>HORT 582 – Foundations of Hort. Pest Mgt. (1)<br>HORT 590 – Hort. Internship (3)<br>HORT 599 – The Horticultural Professional (0)<br>HORT 710 – Plant Cell. Tissue & Organ Cult. (3)<br>HORT 300-799 (6) |
| <b>Plant Science Electives (15 credit hours)</b><br>Any Horticulture 300 level or above not otherwise required with up to:<br>3 credits from Plant Pathology 500 level or above excluding PLPTH 500;<br>3 credits from Entomology 500 level or above;<br>3 credits from Agronomy 300 level or above, excluding AGRON 305         | <b>Plant Science Electives (9 hours)</b><br>Select 9 hours from:<br>BIOL 502-799<br>PLPTH 501-799<br>ENTOM 500-799<br>AGRON 300-799<br>HORT 300-799                                                                                                                                               |
| <b>Free Electives (4-8 credit hours)</b>                                                                                                                                                                                                                                                                                         | <b>Free Electives (5 credit hours)</b>                                                                                                                                                                                                                                                            |
| <b>Total Credits for Graduation (126 credit hours)</b>                                                                                                                                                                                                                                                                           | <b>Total Credits for Graduation (120 credit hours)</b>                                                                                                                                                                                                                                            |

**RATIONALE:** This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

**IMPACT:** These changes could potentially influence enrollment in Division of Biology and Modern Languages courses, although not significantly because advisors will continue to recommend courses in both areas. Both programs have been notified of the changes (see attached communication).

## Horticulture (B.S.) - Landscape Horticulture Option

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=12969](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12969)

**FROM:**

**TO:**

|                                                                                                                                                                                                                                               |                                                                                                                                                                                                    |
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| <b>Communications (14-16 hours)</b><br>COMM 105 - Public Speaking IA (2)<br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br><del>Communication elective (3)</del><br><del>Modern Language elective (3-5)</del> | <b>Communications (11-13 hours)</b><br>COMM 105 - Public Speaking IA (2)<br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br><del>Communication elective (3-5)</del> |
| <b>Humanities/Social Sciences Electives (6 hours)</b><br>Elective (3)<br>Elective (3)                                                                                                                                                         | <b>Humanities/Social Sciences Electives (6 hours)</b>                                                                                                                                              |

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| <b><del>Biological/Quantitative Sciences</del></b> (22 hours)<br>BIOCHM 265 - Intro. Organic Biochemistry (5)<br><del>BIOL 198 - Principles of Biology (4)</del><br><del>BIOL 500 - Plant Physiology (3-4)</del><br>CHM 110 - General Chemistry (3)<br>and<br>CHM 111 - General Chemistry Laboratory (1)<br>MATH 100 - College Algebra (3)<br>Math/Physics/Statistics Elective (3)                                                                                                                                                                                                                                                                                                                                | <b>Quantitative Sciences</b> (15 hours)<br>BIOCHM 265 - Intro. Organic Biochemistry (5)<br>CHM 110 - General Chemistry (3)<br>and<br>CHM 111 - General Chemistry Laboratory (1)<br>MATH 100 - College Algebra (3)<br>Math/Physics/Statistics Elective (3)                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Econ/Business Electives</b> (15 hours)<br>ACCTG 231 - Accounting for Bus. Ops. (3)<br>ECON 110 - Princ. of Macroeconomics (3)<br>or<br>ECON 120 - Princ. of Microeconomics (3)<br><del>Econ./Business electives (9)</del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b><u>Biological/Environmental Sciences</u></b> (20 hours)<br><u>AGRON 305 - Soils (4)</u><br><u>BIOL 198 - Principles of Biology (4)</u><br><u>BIOL 500 - Plant Physiology (3)</u><br><u>PLPTH 500 - Princ. Plant Pathology (3)</u><br><u>Environmental Science/Biology elective (3)</u><br><u>Entomology elective (3)</u>                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Core Requirements</b> (28 hours)<br><del>AGRON 305 - Soils (4)</del><br>HORT 190 -Preparing for Your Horticulture Career (1)<br>HORT 201 - Princ. of Horticulture Science (4)<br>HORT 350 - Plant Propagation (3)<br>HORT 374 - Landscape Plants I (3)<br>HORT 582 - Foundations of Hort. Pest Mgt. (1)<br>HORT 590 - Hort. Internship (3)<br>HORT 599 - The Horticultural Professional (0)<br><del>PLPTH 500 - Princ. Plant Pathology (3)</del><br><del>Entomology elective (3)</del><br><del>Environmental Sci./Biology Elective (3)</del>                                                                                                                                                      | <b><u>AgEcon/Econ/Business/Entrepreneurship</u></b> (12 hours)<br>ECON 110 - Princ. of Macroeconomics (3)<br>Or<br>ECON 120 - Princ. of Microeconomics (3)<br>Or<br><u>AGEC 120 Agr. Econ. and Agribus. (3)</u><br>ACCTG 231 - Accounting for Bus. Ops. (3)<br><u>Ag.Econ./Econ/Business/Entrepreneurship Electives (6)</u>                                                                                                                                                                                                                                                                                                                |
| <b>Landscape Core Requirements</b> (20 hours)<br>HORT 375 - Landscape Plants II (3)<br>HORT 515 - Basic Turfgrass Culture (2)<br>HORT 508 - Sustainable Land. Maint. Pract. (2)<br><del>HORT 550 - Landscape Irrigation Systems (3)</del><br>HORT 551 - The Bus. of Landscape Contracting (1)<br>HORT 552 - Hort. Landscape Construction (1)<br>HORT 585 - Arboriculture (3)<br><del>HORT 587, 588, or 589 Pest Mgmt. elective (2)</del><br>or<br>PLPTH 590 - Landscape Diseases (2)<br><i>Plus, select one of the following:</i><br>HORT 275 - Horticultural Design 1 (3)<br>HORT 520 - Fruit Production (3)<br>HORT 560 - Vegetable Crop Production (3)<br><del>HORT 570 - Greenhouse Ops. Management (3)</del> | <b>Horticulture Core Requirements</b> (24 hours)<br>HORT 190 - Preparing for your Horticulture Career (1)<br>HORT 201 - Princ. of Horticulture Science (4)<br>HORT 350 - Plant Propagation (3)<br>HORT 374 - Landscape Plants I (3)<br><u>HORT 550 - Horticultural Irrigation Systems (3)</u><br><u>HORT 570 - Greenhouse Operations Mgmt. (3)</u><br>HORT 582 - Foundations of Hort. Pest Mgt. (1)<br>HORT 590 - Hort. Internship (3)<br>HORT 599 - The Horticultural Professional (0)<br><u>HORT 600 - Herbaceous Crop Production (3)</u>                                                                                                |
| <b>Landscape Core Requirements</b> (18 hours)<br>HORT 375 - <u>Landscape Plants II</u> (3)<br>HORT 515 - Basic Turfgrass Culture (3)<br>HORT 508 - Sustainable Land. Maint. Pract. (2)<br>HORT 551 - The Bus. of Landscape Contracting (1)<br>HORT 552 - Hort. Landscape Construction (1)<br>HORT 585 - Arboriculture (3)<br><u>HORT 587 Turfgrass Disease Mgt. (1)</u><br>and<br><u>HORT 588 Turfgrass Weed Mgt. (1)</u><br>Or<br>PLPTH 590 - Landscape Diseases (2)<br><i>Plus, select one of the following:</i><br>HORT 275 - Horticultural Design 1 (3)<br>HORT 520 - Fruit Production (3)<br>HORT 560 - Vegetable Crop Production (3)                                                                        | <b>Landscape Core Requirements</b> (18 hours)<br>HORT 375 - <u>Landscape Plants II</u> (3)<br>HORT 515 - Basic Turfgrass Culture (3)<br>HORT 508 - Sustainable Land. Maint. Pract. (2)<br>HORT 551 - The Bus. of Landscape Contracting (1)<br>HORT 552 - Hort. Landscape Construction (1)<br>HORT 585 - Arboriculture (3)<br><u>HORT 587 Turfgrass Disease Mgt. (1)</u><br>and<br><u>HORT 588 Turfgrass Weed Mgt. (1)</u><br>Or<br>PLPTH 590 - Landscape Diseases (2)<br><i>Plus, select one of the following:</i><br>HORT 275 - Horticultural Design 1 (3)<br>HORT 520 - Fruit Production (3)<br>HORT 560 - Vegetable Crop Production (3) |

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| <b>Specialization Electives</b> (16-19 hours)<br><i>Select 16-19 hours from the list below.</i><br>AGRON 330 – Weed Science (3)<br>AGRON 375 – Soil Fertility (3)<br>HORT 210 – Concepts of Floral Design (3)<br><del>HORT 275 – Horticultural Design 1 (3)</del><br><del>HORT 325 – Intro. Organic Farming (2)</del><br>HORT 405 – Water Issues/Lawn & Landscape (3)<br>HORT 510 – Horticultural Design 2 (3)<br><del>HORT 516 – Intensive Cult. Golf &amp; Sports Turf (3)</del><br>HORT 520 – Fruit Production (3)<br>HORT 545 – Comp. Apps. Hort. Design (3)<br><del>HORT 640 – Prb./Landscape Irrigation Design (2)</del><br>HORT 560 – Vegetable Crop Production (3)<br><del>HORT 570 – Greenhouse Ops. Management (3)</del><br>HORT 575 – Nursery Management (3)<br><del>HORT 587, 588, or 589 Pest Mgmt. Elective (2)</del><br><del>HORT 600 – Herbaceous Crop Production (3)</del><br>HORT 625 – Floral Crop Production/Handling (2)<br><del>HORT 706 – Turfgrass Science (3)</del><br>HORT 710 – Plant Cell, Tissue & Organ Cult. (3)<br>HORT 790 – Sustainable Agriculture (2)<br>HORT 791 – Urban Agriculture (2)<br>PLPTH 590 – Landscape Diseases (2)<br>Surveying elective:<br>CE 212 – Elementary Surveying Engineering (3)<br>or<br>ATM 558 – <del>Soil Erosion, Sediment &amp; Poll. Contr.</del> (3) | <b>Specialization Electives</b> (10-12 hours)<br><i>Select a minimum of 10 hours from:</i><br>AGRON 330 – Weed Science (3)<br>AGRON 375 – Soil Fertility (3)<br>HORT 210 – Concepts of Floral Design (3)<br>HORT 301 – Horticulture Practicum (1-3)<br>HORT 377 – Interior Plantscaping (3)<br>HORT 390 – Horticulture Topics (1-3)<br>HORT 405 – Water Issues/Lawn & Landscape (3)<br>HORT 495 – Undergraduate Research in Hort. (3)<br>HORT 510 – Horticultural Design 2 (3)<br>HORT 520 – Fruit Production (3)<br>HORT 545 – Comp. Apps. Hort. Design (3)<br><del>HORT 640 – Horticulture Problems (0-3)</del><br>HORT 560 – Vegetable Crop Production (3)<br>HORT 575 – Nursery Management (3)<br>HORT 595 – Horticulture Study Abroad (3)<br>HORT 625 – Floral Crop Production/Handling (2)<br>HORT 706 Adv. Culture of Golf and Sports Turf (3)<br>HORT 710 – Plant Cell, Tissue & Organ Cult. (3)<br>HORT 790 – Sustainable Agriculture (2)<br>HORT 791 – Urban Agriculture (2)<br>PLPTH 590 – Landscape Diseases (2)<br>Surveying elective:<br>CE 212 – Elementary Surveying Engineering (3)<br>Or<br>ATM 558 – <u>Hydrology &amp; Soil Erosion Mgmt.</u> (3)<br><u>Any Biology or Agronomy course 300 or above</u> (3) |
| <b>Free electives</b> (0-5 credit hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Free electives</b> (4 hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Total Credits for Graduation</b> (126 credit hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Total Credits for Graduation</b> (120 hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**RATIONALE:** This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

**IMPACT:** These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication).

## **Arts and Sciences**

### **Concurrent B.A./B.S. in Sociology (or Criminology) and Masters of Sociology**

Students who successfully complete this program will receive a BA or BS in Sociology or Criminology and a Masters of Sociology with an emphasis in General Sociology; Criminology; Community, Agriculture, Food and Environment; or Social Inequalities. The degree can be completed in a minimum of five academic years.

#### **Admissions Requirements**

Applicants are encouraged to apply to the program during their junior year and must meet the following requirements:

- . The student must be currently seeking a B.A. or B.S. degree in one of the concentrations of the Sociology program.
- . The student must have completed a minimum of 90 credit hours before being formally admitted to the M.A. program and beginning graduate coursework.
- . The student must have completed STAT 325, SOCIO 423 and SOCIO 431 and a minimum of six additional credit hours in Sociology or Criminology.
- . The student must have earned a GPA of 3.5 in the major and 3.0 overall.

#### **Application Process**

Students should apply to the program during their junior year. Applications should include the following:

- . A completed on-line application to the K-State Graduate School with paid application fee.
- . A statement of objectives indicating professional goals relative to the M.A. degree
- . Three letters of recommendation; at least two of them must be from KSU Sociology faculty who are familiar with the student's ability.
- . Official transcript(s) of all undergraduate course work completed at the time of application
- . A sample of written work (e.g. research paper, essay).
- . The Graduate Record Exam (GRE) must be taken before starting graduate coursework.

Students applying without having taken the GRE may be admitted on a probationary basis. They will then be considered for regular status after taking the GRE.

Applications are evaluated by the Graduate Admissions Committee, which will provide a recommendation to the Director of Graduate Studies about an applicant's suitability for the program.

## **Program Guidelines**

. The bachelor's degree normally requires 120 undergraduate credit hours and the M.A. degree 30 graduate credit hours. However, the program allows a maximum of 9 credit hours of graduate courses to be counted toward both the undergraduate and graduate degrees.

. Students may begin taking graduate courses during their 4<sup>th</sup> year of the program.

. Graduate courses must be completed with a minimum GPA of 3.0.

. The bachelor's degree may be awarded at any time following the completion of the undergraduate degree requirements. Alternatively, the B.A./B.S. degree and the M.A. may be awarded concurrently following the completion of the M.A. degree.

. Students must choose one of four options in the M.A. program – Sociology, Sociology-CAFÉ, Sociology-Social Inequalities, Criminology.

### **M.A. in Sociology**

Students pursuing the M.A. in Sociology are required to complete 12 hours of “core” courses.

#### **Core Courses (12 credit hours)**

- SOCIO 809 Classical Theory
- SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

#### **Elective Courses (12 credit hours)**

In addition, students must complete a minimum of 12 hours of elective graduate courses in Sociology. These courses can be in any area of the graduate program.

#### **Thesis/Exam/Report (6 credit hours)**

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology.

### **M.A. in Sociology – Criminology concentration**

Students pursuing the M.A. in Sociology with a concentration in Criminology are required to complete 12 hours of “core” courses.

**Core Courses (12 credit hours)**

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research
- SOCIO 862 Criminological Theory

**Elective Courses (12 credit hours)**

In addition, students pursuing the Criminology concentration must complete a minimum of 12 hours of elective graduate courses. A minimum of 9 of these credit hours must be in Criminology courses.

**Thesis/Exam/Report (6 credit hours)**

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Criminology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Criminology or Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Criminology.

**M.A. in Sociology - Community, Agriculture, Food, and Environment Concentration**

Students pursuing the M.A. in Sociology with a concentration in Community, Agriculture, Food, and Environment (CAFÉ) are required to complete 12 hours of "core" courses.

**Core Courses (9 credit hours)**

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

**CAFÉ Elective Courses (9 credit hours)**

In addition, students must complete a minimum of 9 hours of elective graduate courses from below:

- SOCIO 830: Social Demography
- SOCIO 831: Sociology of Agriculture

- SOCIO 832: Sociology of Community
- SOCIO 835: Environment and Society
- SOCIO 851: Sociology of Development

**Thesis/Exam/Report (6 credit hours)**

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology-CAFÉ.

**M.A. in Sociology - Social Inequalities Concentration**

Students pursuing the M.A. in Sociology with a concentration in Social Inequalities are required to complete 12 hours of "core" courses.

**Core Courses (9 credit hours)**

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

**Social Inequalities Elective Courses (9 credit hours)**

In addition, students must complete a minimum of 9 hours of elective graduate courses from below:

- SOCIO 830: Social Demography
- SOCIO 833: Gender Differentiation and Inequality
- SOCIO 933: Gender and Society
- SOCIO 841: Social Stratification

**Thesis/Exam/Report (6 credit hours)**

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.

- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology-Social Inequalities.

### **Rationale:**

This proposal: (1) provides a plan to complete the B.S./B.A and M.A. concurrently in five years; and (2) adds three options (concentrations) in "Community, Agriculture, Food, and Environment (CAFÉ)," "Social Inequalities," and "Criminology."

At the Bachelor's level (B.S./B.A.) the curriculum currently includes a General Sociology option and a Criminology option. At the Master's level, the curriculum currently includes a thesis option, a non-thesis option, and a M.A. in Social Analysis option. Currently, the Bachelor's plan is designed to be completed in four years and the Master's is designed to be completed in two years.

These proposed changes would provide more choices for our undergraduate majors and graduate students to specialize in particular areas of sociology that fit with existing strengths in the department and strengthen the marketability of our students.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impacts on other units are expected from these changes.

## **Business Administration**

### **Professional Strategic Selling, B.S.**

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Professional Strategic Selling</b> | <b>Professional Strategic Selling</b><br><br><u>The major in Professional Strategic Selling will build upon the existing sales coursework in Marketing. The establishment of a major in professional strategic selling would:</u> <ol style="list-style-type: none"><li>1. <u>Provide a full range of coursework aimed at developing students selling skills;</u></li><li>2. <u>Provide an avenue for students who are seeking a sales career to more fully prepare for the realities of the sales role.</u></li><li>3. <u>Allow KSU to compete for the growing number of students who desire the opportunity to study the professional strategic selling within the context of business.</u></li><li>4. <u>Continue to develop strong connections with businesses locally as well as nationally; a sales major will influence the desire of businesses to recruit for entry level sales positions at K-State;</u></li><li>5. <u>Meet the business community's ever-growing demand for well-prepared sales talent.</u></li></ol> <u>The Major in Professional Strategic Selling will focus on the business skills needed to be successful in a sales career. Moreover, this major will open numerous opportunities for our students; recent reports note that demand for well-qualified sales talent is high, and yet the availability of such talent is limited, largely because few universities offer programs in sales education.</u><br><br><b>Admission Criteria:</b><br>Selective admissions to the major will be employed; students must apply to the program, submitting a completed application form, transcript and resume and participating in an interview process. Criteria for selection will include academic performance, a demonstrated interest in a career in sales, and space availability. |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Business Administration Pre-Professions  
Program (54 credit hours)**

BAPP Requirements

**Business Core (30 credit hours)**

Business Core Requirements

**Major Field Requirements (18 credit hours)**

- MKTG 542 - Fundamentals of Professional Selling **Credits: 3**
- MKTG 550 – Business Marketing **Credits: 3**
- MKTG 560 – Sales Force Leadership **Credits: 3**
- MKTG 565 - Customer Relationship Management **Credits: 3**
- MKTG 570 – Advanced Selling **Credits: 3**
- MKTG 499 – Sales Practicum **Credits: 3**

**Major Field Electives (6 credit hours)**

- MKTG 450 - Consumer Behavior **Credits: 3**
- MKTG 496 - Special Topics in Marketing: Relationship Marketing **Credits: 3**
- MKTG 496 - Special Topics in Marketing: Cooperation Selling **Credits: 3**
- MKTG 544 - International Marketing **Credits: 3**
- MKTG 546 - Services Marketing **Credits: 3**
- MKTG 545 - Marketing Channels **Credits: 3**
- MKTG 580 - ~~Business Intelligence for Strategic Decision Making~~ **Credits: 3**

**Economics electives (6 credit hours)**

Economics electives must be selected from economics course offerings numbered 500 or

**Business Administration Pre-Professions  
Program (45 credit hours)**

BAPP Requirements

**Business Core (30 credit hours)**

Business Core Requirements

**Major Field Requirements (18 credit hours)**

- MKTG 542 - Fundamentals of Professional Selling **Credits: 3**
- MKTG 550 – Business Marketing **Credits: 3**
- MKTG 560 – Sales Force Leadership **Credits: 3**
- MKTG 565 - Customer Relationship Management **Credits: 3**
- MKTG 570 – Advanced Selling **Credits: 3**
- MKTG 499 – Sales Practicum **Credits: 3**

**Major Field Electives (9 credit hours)**

- MKTG 450 - Consumer Behavior **Credits: 3**
- MKTG 496 - Special Topics in Marketing: Relationship Marketing **Credits: 3**
- MKTG 496 - Special Topics in Marketing: Cooperation Selling **Credits: 3**
- MKTG 544 - International Marketing **Credits: 3**
- MKTG 546 - Services Marketing **Credits: 3**
- MKTG 545 - Marketing Channels **Credits: 3**
- MKTG 580 – Marketing Analytics Fundamentals **Credits: 3**
- MKTG 581 – Applications of Marketing Analytics **Credits: 3**

**Economics electives (3 credit hours)**

Economic elective must be selected from economics course offerings numbered 500 or

|                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>above <b>excluding ECON 505</b> in consultation with the student's academic advisor. Economics electives may not overlap with economics courses used to complete other requirements for the <del>marketing</del> major.</p>                                                                     | <p>above <b>excluding ECON 505</b> in consultation with the student's academic advisor. Economics electives may not overlap with economics courses used to complete other requirements for the <u>professional strategic selling</u> major.</p>                                                    |
| <p><b>Unrestricted electives (<del>12</del> credit hours)</b></p>                                                                                                                                                                                                                                  | <p><b>Unrestricted electives (<u>15</u> credit hours)</b></p>                                                                                                                                                                                                                                      |
| <p>Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.</p> | <p>Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.</p> |
| <p><b>Total credit hours required for graduation: (<del>126</del>)</b></p>                                                                                                                                                                                                                         | <p><b>Total credit hours required for graduation: (<u>120</u>)</b></p>                                                                                                                                                                                                                             |

**Rationale:** (This rationale was included in the proposals to change the other majors in Business from 126 to 120. This new major – Professional Strategic Selling – was approved already at 120 hours before we had eliminated the 9 hour thematic sequence requirement and the upper level economic courses going from 6 hours to 3 hours as we have done with the other majors. This proposal is to change the major to meet the requirements of the other business majors.) Most business schools require less than 126 credit hours for graduation. In fact, most of our peer institutions require 120 credit hours. In today's world, there are also heightened concerns about the affordability of a college degree, graduation rates and timeline for graduation. The thematic sequence component of the program has been very challenging for the students to fulfill and been a drain on the academic advisors' time due to limited and on-going changes in seat and course availabilities for non-majors offered by K-State departments. Additionally, the K-State degree audit (DARS) system is not allowing for automatic placement of many of the courses in student's audits which requires our record staff to manually place most of the courses for each of the around 2500 students in the college. Furthermore, there is an expectation by the KBOR to create ways for a seamless transfer of credits from community colleges to the four-year institutions. The Thematic Sequence has proven to create significant challenges to this KBOR initiative due to the nature of its design.

Therefore, to remain competitive with other business schools, meet the needs of our students and their families, use our resources efficiently and comply with the expectation of the KBOR, we believe this is the right time to modify the requirements of our degree.

Additionally, most of our peer institutions require 0 or 3 credit hours of upper division Economics electives. To be more in line with the requirements of peer institutions, we are modifying the requirement for the upper division Economics requirement.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** The Department of Economics will be impacted. This proposal was discussed with Bill Blankenau and Dan Kuester on 9/13/17.

**From:** William Blankenau  
**Sent:** Friday, December 15, 2017 9:39 AM  
**To:** Kevin Gwinner  
**Cc:** Chwen Sheu  
**Subject:**

Hi Kevin,

This is to acknowledge that the Department of Economics has been informed of the decision by the College of Business to decrease the Econ electives to one for both on-campus and online business degree programs.

Bill

Bill Blankenau  
Professor & Department Head  
Department of Economics  
Kansas State University  
327 Waters Hall  
Manhattan, Kansas 66506-4001  
(785) 532-6340

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**From:** Kevin Gwinner  
**Sent:** Wednesday, January 10, 2018 7:00 PM  
**To:** John Buckwalter; Debbie Mercer; John Floros; Darren Dawson; Timothy de Noble; Amit Chakrabarti; Mary Tolar; Duane Dunn  
**Cc:** Chwen Sheu; Bente Janda  
**Subject:** Business College Credit Hour Reduction Notice

Hello all:

I am contacting you as a part of the curriculum change process of reducing the total number of hours in all business majors from 126 to 120 hours. As you know, this is based on an initiative by the KS BOR and I feel there are many good reasons for our degrees to make this change. We are pursuing the reduction of the 6 hours as outlined below.

First, we are changing our "Thematic Sequence" requirement, where students are required to take 9 hours of courses in a themed area outside the College of Business (e.g., Agronomy), from 9 hours in a themed area outside the College of Business to 6 hours of unrestricted electives. Because there is no way to predict which departments this will have an impact on as there are a variety of themes a student is allowed to select from (see link below for the policy including sample sequences) we are alerting all main campus academic colleges and others we think may be impacted by this proposed change.

Second, we are proposing moving from 12 required hours in economics (macro, micro, and two 500+ level courses) to 9 required hours in economics (macro, micro, and one 500+ level course) for the accounting, general business, finance, management and marketing majors. We first started having discussions with the head of the Department of Economics about this potential change in September 2017.

The exception to the above is for the remaining two majors in our college, Entrepreneurship and Management Information Systems. Since they currently require 3 and 0 hours of upper level economics courses, respectively, we are not eliminating any economics courses from those two majors and instead will add just 3 hours of unrestricted electives in place of the thematic sequence.

If you have any concerns or questions please let me know.

--Kevin.

<http://cba.k-state.edu/students/current/curriculum/2017%20TSeqs.pdf>

Kevin Gwinner  
Edgerley Family Dean  
Professor of Marketing  
College of Business Administration  
Kansas State University  
Manhattan, KS 66506-0506  
PHONE: 785-532-7227  
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Twitter: @KSUBizDean

**\*Comment from Curriculog by Alice Neidfeldt:**

Professional Strategic Selling Major is a new curriculum that was approved in the old course and curriculum procedures. It went through all the KSU new curriculum routing being approved at 126 credit hours to complete. When it got to KBOR they made a change and approved it at 120 credit hours. This change is to get PSS in line with the other recent changes for the other CBA majors where they were changed by the college from 126 to 120 credit hours to complete. Change includes removing the 9 hour thematic sequence area, dropping the upper level economic electives from 6 to 3 hours, changing major field electives from 6 to 9 hours, and changing unrestricted electives from 12 to 15 hours. All the changes will be effective Fall 2018.

## **Education**

### **Elementary Education (BS in Education)**

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=13034&returnto=7005](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13034&returnto=7005)

| Bachelor's degree requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bachelor's degree requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Education Requirements (53 credit hours minimum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | General Education Requirements (49 credit hours minimum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><i>Communications (8-9 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <a href="#">ENGL 100 - Expository Writing I</a> Credits: 3</li> <li>• <a href="#">ENGL 200 - Expository Writing II</a> Credits: 3</li> </ul> <p>Choose one from the following:</p> <ul style="list-style-type: none"> <li>• <a href="#">COMM 105 - Public Speaking IA</a> Credits: 2</li> <li>• or</li> <li>• <a href="#">COMM 106 - Public Speaking I</a> Credits: 3</li> <li>• or</li> <li>• <a href="#">COMM 109 - Public Speaking 1A, Honors</a> Credits: 3</li> </ul> <p><i>Humanities (12 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <del>Literature Credits: 3</del></li> <li>• <a href="#">EDEL 270 - Arts for Elementary Schools</a> Credits: 3</li> <li>• <a href="#">ENGL 355 - Literature for Children</a> Credits: 3</li> <li>• <a href="#">MUSIC 405 - Music for Elementary Teachers</a> Credits: 3</li> </ul> <p><i>Social Science (12 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <a href="#">GEOG 100 - World Regional Geography</a> Credits: 3</li> <li>• or</li> <li>• <a href="#">GEOG 200 - Human Geography</a> Credits: 3</li> <li>• <a href="#">HIST 251 - History of the United States to 1877</a> Credits: 3</li> <li>• or</li> </ul> | <p><i>Communications (8-9 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <a href="#">ENGL 100 - Expository Writing I</a> Credits: 3</li> <li>• <a href="#">ENGL 200 - Expository Writing II</a> Credits: 3</li> </ul> <p>Choose one from the following:</p> <ul style="list-style-type: none"> <li>• <a href="#">COMM 105 - Public Speaking IA</a> Credits: 2</li> <li>• or</li> <li>• <a href="#">COMM 106 - Public Speaking I</a> Credits: 2-3</li> <li>• or</li> <li>• <a href="#">COMM 109 - Public Speaking 1A, Honors</a> Credits: 3</li> </ul> <p><i>Humanities (9 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <a href="#">EDEL 270 - Arts for Elementary Schools</a> Credits: 3</li> <li>• <a href="#">ENGL 355 - Literature for Children</a> Credits: 3</li> <li>• <a href="#">MUSIC 405 - Music for Elementary Teachers</a> Credits: 3</li> </ul> <p><i>Social Science (12 credit hours)</i></p> <ul style="list-style-type: none"> <li>• <a href="#">HDFS 110 - Introduction to Human Development</a> Credits: 3</li> </ul> <p><i>Choose 3 of the 4</i></p> <ul style="list-style-type: none"> <li>• <a href="#">GEOG 100 - World Regional Geography</a> or <a href="#">GEOG 200 - Human Geography</a> Credits: 3</li> </ul> |

- [HIST 252 - History of the United States Since 1877](#) Credits: 3
- [POLSC 110 - Introduction to Political Science](#) Credits: 3
- or
- [POLSC 115 - U.S. Politics](#) Credits: 3
- Economics course Credits: 3

### *Natural Science (12 credit hours)*

Each area requires a lab.

- Biological Science Credits: 4
- Physical Science Credits: 4
- Earth Science Credits: 4

### *Quantitative Sciences (9 credit hours)*

- [MATH 100 - College Algebra](#) Credits: 3  
Grade C or better required.
- [MATH 320 - Mathematics for Elementary School Teachers I](#) Credits: 3

Choose from the following:

Grade C or better for either course

- [MATH 160 - Introduction to Contemporary Mathematics](#) Credits: 3
- or
- [STAT 325 - Introduction to Statistics](#) Credits: 3

## Teacher Education Courses

A grade of C or higher is required in all teacher education courses and practica.

A 3.0 or higher GPA in teacher education courses and practica is needed before the Professional Semester.

## Pre-Professional Component (10 credit hours)

- [DED 075 - Orientation to Teacher Education at KSU](#) Credits: 0

- [HIST 251 - History of the United States to 1877](#) or [HIST 252 - History of the United States Since 1877](#) Credits: 3
- Political Science course Credits: 3
- Economics course Credits: 3

### *Natural Science (11 credit hours)*

Two areas require a lab.

- Biological Science Credits 3-4
- Physical Science Credits 3-4
- Earth Science Credits 3-4

### *Quantitative Sciences (9 credit hours)*

- [MATH 100 - College Algebra](#) Credits: 3  
Grade C or better required.
- [MATH 320 - Mathematics for Elementary School Teachers I](#) Credits: 3

Choose from the following:

Grade C or better for either course

- [MATH 160 - Introduction to Contemporary Mathematics](#) Credits: 3
- or
- [STAT 325 - Introduction to Statistics](#) Credits: 3

## Teacher Education Courses (56 credit hours)

A grade of C or higher is required in all teacher education courses and practica.

A 3.0 or higher GPA in teacher education courses and practica is needed before the Professional Semester.

## Pre-Professional Component (10 credit hours)

- [DED 075 - Orientation to Teacher Education](#)

- [EDEL 200 - Teaching as a Career](#) Credits: 1
- [EDEL 230 - Early Field Experience](#) Credits: 1
- [EDEL 250 - Health and Movement Education in Elementary Classrooms](#) Credits: 2
- [EDEL 310 - Foundations of Education](#) Credits: 3
- ~~[HDFS 110 - Introduction to Human Development](#) Credits: 3~~

[at KSU](#) Credits: 0

- [EDCI 200 - Teaching as a Career](#) Credits: 1
- [EDCI 230 - Early Field Experience](#) Credits: 1
- [EDEL 250 - Health and Movement Education in Elementary Classrooms](#) Credits: 2
- [EDCI 310 - Foundations of Education](#) Credits: 3
- [EDCI 400 - New Literacies in Contemporary Classrooms](#) Credits: 3

### Professional Component - Admission to Teacher Education is required (47 credit hours)

Students receiving a grade of less than a C in a Block A course will not be permitted to proceed to Block B until a grade of C or higher is recorded (i.e., must retake the Block A course first).

Students receiving a grade of less than C in a Block B course or practicum will not be permitted to proceed to Block C until a grade of C or higher is recorded.

Students receiving a grade of less than C in a Block C course will not be permitted to proceed to the professional semester until a grade of C or higher is recorded.

#### *Block A (10 credit hours)*

Must be taken concurrently and prior to Block B.

- [EDCI 318 - Educational Technology for Teaching and Learning](#) Credits: 1
- [EDCEP 315 - Educational Psychology](#) Credits: 3
- [EDEL 320 - Core Teaching Skills and Lab](#) Credits: 3
- [EDSP 324 - Exceptional Child in the Regular Classroom](#) Credits: 3

#### *Block B (41 credit hours)*

Must be taken concurrently and prior to Block C.

- [EDEL 410 - Block B Practicum: K-6](#) Credits: 4
- [EDEL 411 - Teaching Literacy: K-2](#) Credits: 3

### Professional Component - Admission to Teacher Education is required (46 credit hours)

Students receiving a grade of less than a C in a Block A course will not be permitted to proceed to Block B until a grade of C or higher is recorded (i.e., must retake the Block A course first).

Students receiving a grade of less than C in a Block B course or practicum will not be permitted to proceed to Block C until a grade of C or higher is recorded.

Students receiving a grade of less than C in a Block C course will not be permitted to proceed to the professional semester until a grade of C or higher is recorded.

#### *Block A (10 credit hours)*

Must be taken concurrently and prior to Block B.

- [EDCI 318 - Educational Technology for Teaching and Learning](#) Credits: 1
- [EDCEP 315 - Educational Psychology](#) Credits: 3
- [EDCI 320 - Core Teaching Skills](#) Credits: 3
- [EDSP 324 - Exceptional Child in the Regular Classroom](#) Credits: 3

#### *Block B (12 credit hours)*

Must be taken concurrently and prior to Block C.

- [EDEL 410 - Block B Practicum: K-6](#) Credits: 2
- [EDEL 411 - Teaching Literacy: K-2](#) Credits: 3
- [EDEL 412 - Teaching Science: K-6](#) Credits: 3

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <a href="#">EDEL 412 - Teaching Science: K-6 Credits: 3</a></li> <li>• <a href="#">EDEL 413 - Classroom Assessment: K-6 Credits: 1</a></li> <li>• <a href="#">EDEL 414 - Teaching Culturally and Linguistically Diverse Learners Credits: 3</a></li> </ul> <p><b>Block C (4 credit hours)</b></p> <p>Must be taken concurrently and prior to the Professional Semester.</p> <ul style="list-style-type: none"> <li>• <a href="#">EDEL 460 - Block C Practicum: K-6 Credits: 1</a></li> <li>• <a href="#">EDEL 461 - Teaching Literacy: Grades 3-6 Credits: 3</a></li> <li>• <a href="#">EDEL 462 - Teaching Social Studies: K-6 Credits: 3</a></li> <li>• <a href="#">EDEL 463 - Teaching Mathematics: K-6 Credits: 3</a></li> <li>• <a href="#">EDEL 464 - Classroom Management and Discipline: K-6 Credits: 1</a></li> </ul> <p><b>Professional Semester (15 credit hours)</b></p> <p>A 3.0 or higher GPA in Teacher Education courses and practica is needed before the Professional Semester.</p> <ul style="list-style-type: none"> <li>• <a href="#">EDEL 585 - Teaching Internship in Elementary Schools Credits: 1-15</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">EDEL 413 - Classroom Assessment: K-6 Credits: 1</a></li> <li>• <a href="#">EDEL 414 - Teaching Culturally and Linguistically Diverse Learners Credits: 3</a></li> </ul> <p><b>Block C (12 credit hours)</b></p> <p>Must be taken concurrently and prior to the Professional Semester.</p> <ul style="list-style-type: none"> <li>• <a href="#">EDEL 460 - Block C Practicum: K-6 Credits: 2</a></li> <li>• <a href="#">EDEL 461 - Teaching Literacy: Grades 3-6 Credits: 3</a></li> <li>• <a href="#">EDEL 462 - Teaching Social Studies: K-6 Credits: 3</a></li> <li>• <a href="#">EDEL 463 - Teaching Mathematics: K-6 Credits: 3</a></li> <li>• <a href="#">EDEL 464 - Classroom Management and Discipline: K-6 Credits: 1</a></li> </ul> <p><b>Professional Semester (12 credit hours)</b></p> <p>A 3.0 or higher GPA in Teacher Education courses and practica is needed before the Professional Semester.</p> <ul style="list-style-type: none"> <li>• <a href="#">EDEL 585 - Teaching Internship in Elementary Schools Credits: 12</a></li> </ul> |
| <p><b>Area of Concentration</b></p> <p>Requirement: 15 credit hours in one area in addition to general education requirements. One of the following areas must be selected:</p> <ul style="list-style-type: none"> <li>• English</li> <li>• English as a Second Language</li> <li>• Mathematics</li> <li>• Modern Languages</li> <li>• Science</li> <li>• Social Science</li> <li>• Special Education</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>Area of Concentration</b></p> <p>Requirement: 15 credit hours in one area in addition to general education requirements. One of the following areas must be selected:</p> <ul style="list-style-type: none"> <li>• English</li> <li>• English as a Second Language</li> <li>• Mathematics</li> <li>• Modern Languages</li> <li>• Science</li> <li>• Social Science</li> <li>• Special Education</li> <li>• K-12 Online Teaching Undergraduate Certificate (This certificate requires 12 hours. Students selecting this option will have 3 additional elective hours available.)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                                        |                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Total credit hours required for graduation <del>(125-126)</del></p> | <ul style="list-style-type: none"> <li>• Open Option (15 credit hours to be selected in consultation with an advisor. Students are encouraged to select coursework leading to a minor, certificate, or additional teaching interests.)</li> </ul> <p>Total credit hours required for graduation (<b>120</b>)</p> |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Rationale:** The proposal brings the degree into compliance with the KBOR 120-hour mandate and makes updates and revisions.

## Human Ecology

### Apparel and Textiles B.S.

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=13032&returnto=6983](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13032&returnto=6983)

| CHANGE FROM:                                                                                                                                                                                                                         | CHANGE TO:                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Apparel and Textiles (B.S.)</b>                                                                                                                                                                                                   | <b>Apparel and Textiles (B.S.)</b>                                                                                                                                                                                                   |
| <b>General Requirements (41-42 credit hours)</b>                                                                                                                                                                                     | <b>General Requirements (41-42 credit hours)</b>                                                                                                                                                                                     |
| <b>Communications (8-9 credit hours)</b>                                                                                                                                                                                             | <b>Communications (8-9 credit hours)</b>                                                                                                                                                                                             |
| COMM 105 - Public Speaking IA Credits: (2)<br>or<br>COMM 106 - Public Speaking I Credits: (3)<br>ENGL 100 - Expository Writing I Credits: (3)<br>ENGL 200 - Expository Writing II Credits: (3)                                       | COMM 105 - Public Speaking IA Credits: (2)<br>or<br>COMM 106 - Public Speaking I Credits: (3)<br>ENGL 100 - Expository Writing I Credits: (3)<br>ENGL 200 - Expository Writing II Credits: (3)                                       |
| <b>Quantitative Studies (7 credit hours)</b>                                                                                                                                                                                         | <b>Quantitative Studies (7 credit hours)</b>                                                                                                                                                                                         |
| CIS 102 - Introduction to Spreadsheet Applications Credits: (1)<br>MATH 100 - College Algebra Credits: (3)<br>STAT 325 - Introduction to Statistics Credits: (3)<br>or<br>STAT 350 - Business and Economic Statistics I Credits: (3) | CIS 102 - Introduction to Spreadsheet Applications Credits: (1)<br>MATH 100 - College Algebra Credits: (3)<br>STAT 325 - Introduction to Statistics Credits: (3)<br>or<br>STAT 350 - Business and Economic Statistics I Credits: (3) |
| <b>Social Sciences (12 credit hours)</b>                                                                                                                                                                                             | <b>Social Sciences (12 credit hours)</b>                                                                                                                                                                                             |
| ECON 110 - Principles of Macroeconomics Credits: (3)<br>PSYCH 110 - General Psychology Credits: (3)<br>SOCIO 211 - Introduction to Sociology Credits: (3)<br>SOCIO 363 - Global Problems Credits: (3)                                | ECON 110 - Principles of Macroeconomics Credits: (3)<br>PSYCH 110 - General Psychology Credits: (3)<br>SOCIO 211 - Introduction to Sociology Credits: (3)<br>SOCIO 363 - Global Problems Credits: (3)                                |
| <b>Humanities (6 credit hours)</b><br><i>(Only a course of 3 credits or more will apply.)</i>                                                                                                                                        | <b>Humanities (6 credit hours)</b><br><i>(Only a course of 3 credits or more will apply.)</i>                                                                                                                                        |
| History elective Credits: (3)<br>Humanities elective Credits: (3)                                                                                                                                                                    | History elective Credits: (3)<br>Humanities elective Credits: (3)                                                                                                                                                                    |
| <b>Natural and Physical Sciences (7 credit hours)</b>                                                                                                                                                                                | <b>Natural and Physical Sciences (7 credit hours)</b>                                                                                                                                                                                |
| Science elective Credits: (3)<br>GEOG 221 - Introductory Physical Geography: Credits: (4)                                                                                                                                            | Science elective Credits: (3)<br>GEOG 221 - Introductory Physical Geography: Credits: (4)                                                                                                                                            |
| <b>Integrative Human Ecology Course (1 credit hour)</b>                                                                                                                                                                              | <b>Integrative Human Ecology Course (1 credit hour)</b>                                                                                                                                                                              |
| <a href="#">GNHE 210 – Foundations of Human Ecology</a> Credits: (1)                                                                                                                                                                 | <a href="#">GNHE 210 – Foundations of Human Ecology</a> Credits: (1)                                                                                                                                                                 |
| <b>Professional Studies (74 credit hours)</b>                                                                                                                                                                                        | <b>Professional Studies (74 credit hours)</b>                                                                                                                                                                                        |
| <b>Apparel and Textiles Core Courses (35 credit hours)</b>                                                                                                                                                                           | <b>Apparel and Textiles Core Courses (35 credit hours)</b>                                                                                                                                                                           |
| <a href="#">AT 110 - New Student Seminar</a> Credits: (1)<br><a href="#">AT 245 - Apparel and Textile Industry</a> Credits: (3)<br><a href="#">AT 265 - Textiles</a> Credits: (3)                                                    | <a href="#">AT 110 - New Student Seminar</a> Credits: (1)<br><a href="#">AT 245 - Apparel and Textile Industry</a> Credits: (3)<br><a href="#">AT 265 - Textiles</a> Credits: (3)                                                    |

[AT 330 - Dress and Human Behavior](#) Credits: (3)  
[AT 340 - Aesthetics of Apparel and Textiles](#) Credits: (3)  
AT 350 – Our Sustainable World: Current Challenges and Future Opportunities Credits: (3)  
[AT 430 - History of Apparel Fashion: Renaissance to Present](#) Credits: (3)  
[AT 445 - Professional Development](#) Credits: (3)  
[AT 460 - Apparel and Textile Evaluation](#) Credits: (3)  
AT 600 - Global Apparel and Textiles Supply Chain Management Credits: (3)  
[AT 550 - Apparel and Textile Internship](#) Credits: (4)  
[AT 575 - Principles of Forecasting](#) Credits: (3)

**Choose one or both of the specializations in:**

Apparel Design and Production or Apparel Marketing. Consult the Departmental [website](#) for advancement criteria for the ADP specialization.

**Specialization in Apparel Design and Production (39 credit hours)**

Advancement to the ADP specialization is selective and based on performance criteria.

[ART 180 - 2- Dimensional Design](#) Credits: (3)  
[ART 190 - Drawing I](#) Credits: (3)  
[ART 195 - Survey of Art History I](#) Credits: (3)  
[ART 196 - Survey of Art History II](#) Credits: (3)  
[ART 200 - 3- Dimensional Design](#) Credits: (3)  
[AT 300 - Apparel Production I](#) Credits: (3)  
[AT 400 - Fashion Illustration](#) Credits: (3)  
[AT 410 - Apparel Production II](#) Credits: (3)  
[AT 610 - Computer-Aided Design of Apparel](#) Credits: (3)  
[AT 655 - Apparel Pattern Development I](#) Credits: (3)  
[AT 670 - Apparel Pre-Production Processes](#) Credits: (3)  
[AT 695 - Apparel Pattern Development II](#) Credits: (3)

Select one Art History course from the following:

[ART 545 - Twentieth Century Art History I](#) Credits: (3)  
[ART 550 - Twentieth Century Art History II](#) Credits: (3)  
[ART 602 - Twentieth Century Art History III](#) Credits: (3)  
[ART 603 - Twentieth Century Art History IV](#) Credits: (3)

**Specialization in Apparel Marketing (39 credit hours)**

[ACCTG 231 - Accounting for Business Operations](#) Credits: (3)  
[AT 325 - Apparel and Textile Retailing](#) Credits: (3)  
[AT 375 - Computer Technologies for Merchandising](#) Credits: (3)  
[AT 576 - Principles of Buying](#) Credits: (3)  
AT 625 - Apparel and Textiles Business Strategy Credits: (3)  
[ECON 120 - Principles of Microeconomics](#) Credits: (3)  
[MANGT 420 - Management Concepts](#) Credits: (3)  
[MKTG 400 - Introduction to Marketing](#) Credits: (3)  
MKTG 450 - Consumer Behavior Credits: (3)

**In addition, select 12 credits from the following:**

[AT 330 - Dress and Human Behavior](#) Credits: (3)  
[AT 340 - Aesthetics of Apparel and Textiles](#) Credits: (3)  
AT 350 – Our Sustainable World: Current Challenges and Future Opportunities Credits: (3)  
[AT 430 - History of Apparel Fashion: Renaissance to Present](#) Credits: (3)  
[AT 445 - Professional Development](#) Credits: (3)  
[AT 460 - Apparel and Textile Evaluation](#) Credits: (3)  
AT 600 - Global Apparel and Textiles Supply Chain Management Credits: (3)  
[AT 550 - Apparel and Textile Internship](#) Credits: (4)  
[AT 575 - Principles of Forecasting](#) Credits: (3)

**Choose one or both of the specializations in:**

Apparel Design and Production or Apparel Marketing. Consult the Departmental [website](#) for advancement criteria for the ADP specialization.

**Specialization in Apparel Design and Production (39 credit hours)**

Advancement to the ADP specialization is selective and based on performance criteria.

[ART 180 - 2- Dimensional Design](#) Credits: (3)  
[ART 190 - Drawing I](#) Credits: (3)  
[ART 195 - Survey of Art History I](#) Credits: (3)  
[ART 196 - Survey of Art History II](#) Credits: (3)  
[ART 200 - 3- Dimensional Design](#) Credits: (3)  
[AT 300 - Apparel Production I](#) Credits: (3)  
[AT 400 - Fashion Illustration](#) Credits: (3)  
[AT 410 - Apparel Production II](#) Credits: (3)  
[AT 610 - Computer-Aided Design of Apparel](#) Credits: (3)  
[AT 655 - Apparel Pattern Development I](#) Credits: (3)  
[AT 670 - Apparel Pre-Production Processes](#) Credits: (3)  
[AT 695 - Apparel Pattern Development II](#) Credits: (3)

Select one Art History course from the following:

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**Specialization in Apparel Marketing (39 credit hours)**

[ACCTG 231 - Accounting for Business Operations](#) Credits: (3)  
[AT 325 - Apparel and Textile Retailing](#) Credits: (3)  
[AT 375 - Computer Technologies for Merchandising](#) Credits: (3)  
[AT 576 - Principles of Buying](#) Credits: (3)  
AT 625 - Apparel and Textiles Business Strategy Credits: (3)  
[ECON 120 - Principles of Microeconomics](#) Credits: (3)  
[MANGT 420 - Management Concepts](#) Credits: (3)  
[MKTG 400 - Introduction to Marketing](#) Credits: (3)  
MKTG 450 - Consumer Behavior Credits: (3)

**In addition, select 12 credits from the following:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><a href="#">ACCTG 241 - Accounting for Investing and Financing</a><br/>Credits: (3)</p> <p><a href="#">ECON 520 - Intermediate Microeconomics</a> Credits: (3)</p> <p><a href="#">FINAN 450 - Principles of Finance</a> Credits: (3)</p> <p><a href="#">MANGT 520 - Organizational Behavior</a> Credits: (3)</p> <p><a href="#">MANGT 531 - Human Resources Management</a> Credits: (3)</p> <p>or</p> <p><a href="#">PSYCH 560 - Industrial Psychology</a> Credits: (3)</p> <p><a href="#">MC 120 - Principles of Advertising</a> Credits: (3)</p> <p><a href="#">MC 180 - Fundamentals of Public Relations</a> Credits: (3)</p> <p><a href="#">MKTG 542 - Fundamentals of Professional Selling</a><br/>Credits: (3)</p> <p><a href="#">MKTG 544 - International Marketing</a> Credits: (3)</p> <p><a href="#">MKTG 545 - Marketing Channels</a> Credits: (3)</p> <p><a href="#">MKTG 635 - Digital Marketing</a> Credits: (3)</p> <p><a href="#">PSYCH 425 - Judgment and Decision Making</a> Credits: (3)</p> <p>Modern Languages Credits: (3-6)</p> <p>Apparel and Textiles elective Credits: (1-6)</p> <p><b>Unrestricted electives (<del>9-10</del> credit hours)</b></p> <hr/> <p><b><del>125</del> Credit Hours Required for Graduation</b></p> | <p><a href="#">ACCTG 241 - Accounting for Investing and Financing</a><br/>Credits: (3)</p> <p><a href="#">ECON 520 - Intermediate Microeconomics</a> Credits: (3)</p> <p><a href="#">FINAN 450 - Principles of Finance</a> Credits: (3)</p> <p><a href="#">MANGT 520 - Organizational Behavior</a> Credits: (3)</p> <p><a href="#">MANGT 531 - Human Resources Management</a> Credits: (3)</p> <p>or</p> <p><a href="#">PSYCH 560 - Industrial Psychology</a> Credits: (3)</p> <p><a href="#">MC 120 - Principles of Advertising</a> Credits: (3)</p> <p><a href="#">MC 180 - Fundamentals of Public Relations</a> Credits: (3)</p> <p><a href="#">MKTG 542 - Fundamentals of Professional Selling</a><br/>Credits: (3)</p> <p><a href="#">MKTG 544 - International Marketing</a> Credits: (3)</p> <p><a href="#">MKTG 545 - Marketing Channels</a> Credits: (3)</p> <p><a href="#">MKTG 635 - Digital Marketing</a> Credits: (3)</p> <p><a href="#">PSYCH 425 - Judgment and Decision Making</a> Credits: (3)</p> <p>Modern Languages Credits: (3-6)</p> <p>Apparel and Textiles elective Credits: (1-6)</p> <p><b>Unrestricted electives (<del>4-5</del> credit hours)</b></p> <hr/> <p><b><del>120</del> Credit Hours Required for Graduation</b></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Rationale:** This change in reduced credit hours is to satisfy a mandate by the Kansas Board of Regents for undergraduate degrees to be a maximum of 120 credit hours

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** None

## Technology & Aviation

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=13199](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13199)

### **CURRENT: Electronic and computer engineering technology option (BETB-EC)**

**123** hours required for graduation

#### **Freshman**

##### **Fall semester (17 credit hours)**

|          |                                       |   |
|----------|---------------------------------------|---|
| COT 299  | Mastering Academic Conversations..... | 3 |
| ECET 100 | Basic Electronics .....               | 4 |
| ECET 250 | Digital Logic.....                    | 4 |
| ENGL 100 | Expository Writing I.....             | 3 |
| MATH 100 | College Algebra.....                  | 3 |

##### **Spring semester (16 credit hours)**

|          |                                         |   |
|----------|-----------------------------------------|---|
| CHM 110  | General Chemistry.....                  | 3 |
| CHM 111  | General Chemistry Lab .....             | 1 |
| CMST 250 | Hardware and Network Fundamentals ..... | 3 |
| COMM 106 | Public Speaking I.....                  | 3 |
| ECET 101 | Direct Current Circuits .....           | 3 |
| MATH 150 | Plane Trigonometry .....                | 3 |

#### **Sophomore**

##### **Fall semester (16 credit hours)**

|          |                                       |   |
|----------|---------------------------------------|---|
| ECET 110 | Semiconductor Electronics .....       | 4 |
| ECET 201 | Alternating Current Circuits.....     | 4 |
| MATH 220 | Analytic Geometry and Calculus I..... | 4 |
| PHYS 113 | General Physics I.....                | 4 |

##### **Spring semester (15 credit hours)**

|          |                                              |   |
|----------|----------------------------------------------|---|
| ECET 240 | Electronics Manufacturing .....              | 3 |
| ECET 335 | Industrial Control Topics.....               | 1 |
| ECET 350 | Microprocessor Fundamentals .....            | 4 |
| MATH 221 | Analytic Geometry and Calculus II.....       | 4 |
| MET 382  | Industrial Instrumentation and Controls..... | 3 |

#### **Junior**

##### **Fall semester (16 credit hours)**

|          |                                            |   |
|----------|--------------------------------------------|---|
| CMST 302 | Applications in C programming for ET ..... | 3 |
| ECET 304 | Electric Power & Device .....              | 3 |
| ECET 352 | Digital Circuits and Systems .....         | 4 |
| ENGL 200 | Expository Writing II .....                | 3 |
|          | Humanities/Social Science elective .....   | 3 |

##### **Spring semester (14 credit hours)**

|          |                                      |   |
|----------|--------------------------------------|---|
| BUS 315  | Supervisory Management .....         | 3 |
| ECET 320 | Electronic Communication System..... | 4 |
| ENGL 302 | Technical Writing .....              | 3 |
|          | Science Elective with lab .....      | 4 |

#### **Senior**

##### **Fall semester (14 credit hours)**

|          |                                               |   |
|----------|-----------------------------------------------|---|
| ECET 430 | Signals and Systems.....                      | 3 |
| ECET 450 | Digital Systems & Computer Architecture ..... | 4 |
| ECET 480 | Electronics Design I .....                    | 1 |
|          | Humanities/Social Science elective .....      | 3 |
|          | Technical Elective .....                      | 3 |

##### **Spring semester (15 credit hours)**

|          |                                           |   |
|----------|-------------------------------------------|---|
| ECET 420 | Communication Circuits Design .....       | 4 |
| ECET 481 | Electronics Design II .....               | 2 |
|          | Humanities/Social Science elective .....  | 3 |
|          | *Humanities/Social Science elective ..... | 3 |
|          | Technical Elective .....                  | 3 |

\*Marked electives must be upper-level courses, 300 and above.

### **PROPOSED: Electronic and computer engineering technology option (BETB-EC)**

**122** hours required for graduation

#### **Freshman**

##### **Fall semester (16 credit hours)**

|          |                                       |   |
|----------|---------------------------------------|---|
| COT 299  | Mastering Academic Conversations..... | 3 |
| ECET 100 | Basic Electronics.....                | 4 |
| ECET 250 | Digital Logic .....                   | 3 |
| ENGL 100 | Expository Writing I .....            | 3 |
| MATH 100 | College Algebra .....                 | 3 |

##### **Spring semester (16 credit hours)**

|          |                                         |   |
|----------|-----------------------------------------|---|
| CHM 110  | General Chemistry .....                 | 3 |
| CHM 111  | General Chemistry Lab .....             | 1 |
| CMST 250 | Hardware and Network Fundamentals ..... | 3 |
| COMM 106 | Public Speaking I.....                  | 3 |
| ECET 101 | Direct Current Circuits.....            | 3 |
| MATH 150 | Plane Trigonometry .....                | 3 |

#### **Sophomore**

##### **Fall semester (16 credit hours)**

|          |                                        |   |
|----------|----------------------------------------|---|
| ECET 110 | Semiconductor Electronics .....        | 4 |
| ECET 201 | Alternating Current Circuits.....      | 4 |
| MATH 220 | Analytic Geometry and Calculus I ..... | 4 |
| PHYS 113 | General Physics I.....                 | 4 |

##### **Spring semester (15 credit hours)**

|          |                                              |   |
|----------|----------------------------------------------|---|
| ECET 240 | Electronics Manufacturing.....               | 3 |
| ECET 335 | Industrial Control Topics.....               | 1 |
| ECET 350 | Microprocessor Fundamentals.....             | 4 |
| MATH 221 | Analytic Geometry and Calculus II.....       | 4 |
| MET 382  | Industrial Instrumentation and Controls..... | 3 |

#### **Junior**

##### **Fall semester (16 credit hours)**

|          |                                           |   |
|----------|-------------------------------------------|---|
| CMST 302 | Applications in C programming for ET..... | 3 |
| ECET 304 | Electric Power & Device .....             | 3 |
| ECET 352 | Digital Circuits and Systems .....        | 4 |
| ENGL 200 | Expository Writing II.....                | 3 |
|          | Humanities/Social Science elective.....   | 3 |

##### **Spring semester (14 credit hours)**

|          |                                       |   |
|----------|---------------------------------------|---|
| BUS 315  | Supervisory Management .....          | 3 |
| ECET 320 | Electronic Communication System ..... | 4 |
| ENGL 302 | Technical Writing .....               | 3 |
|          | Science Elective with lab.....        | 4 |

#### **Senior**

##### **Fall semester (14 credit hours)**

|          |                                              |   |
|----------|----------------------------------------------|---|
| ECET 430 | Signals and Systems.....                     | 3 |
| ECET 450 | Digital Systems & Computer Architecture..... | 4 |
| ECET 480 | Electronics Design I.....                    | 1 |
|          | Humanities/Social Science elective.....      | 3 |
|          | Technical Elective.....                      | 3 |

##### **Spring semester (15 credit hours)**

|          |                                          |   |
|----------|------------------------------------------|---|
| ECET 420 | Communication Circuits Design.....       | 4 |
| ECET 481 | Electronics Design II .....              | 2 |
|          | Humanities/Social Science elective.....  | 3 |
|          | *Humanities/Social Science elective..... | 3 |
|          | Technical Elective.....                  | 3 |

\*Marked electives must be upper-level courses, 300 and above.

**Rationale:** Digital Logic (ECET 250) has been reduced by 1 credit hour to 3 credits in order to avoid redundancies. This will bring the degree option requirements to 122 credits and closer to the KBOR goal of 120.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impact on other units

## Bachelor of Science in Engineering Technology, Robotics and Automation option

[http://catalog.k-state.edu/preview\\_program.php?catoid=40&poid=13594](http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13594)

| Current                                                                                                           | Proposed                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Bachelor of Science in Engineering Technology, Robotics and Automation option</b><br>124 credit hours required | <b>Bachelor of Science in Engineering Technology, Robotics and Automation option</b><br>120 credit hours required |
| <b>Major Requirements (100 credit hours)</b>                                                                      | <b>Core Courses (61 credit hours)</b>                                                                             |
| <b>Core Courses (62 credit hours)</b>                                                                             | CMST 302 App. In C Programming for ET ..... 3                                                                     |
| CMST 302 App. In C Programming for ET ..... 3                                                                     | CMST 305 Robotics Programming ..... 3                                                                             |
| CMST 305 Robotics Programming ..... 3                                                                             | CMST 357 Machine Vision..... 3                                                                                    |
| CMST 357 Machine Vision..... 3                                                                                    | ECET 100 Basic Electronics ..... 4                                                                                |
| ECET 100 Basic Electronics..... 4                                                                                 | ECET 250 Digital Logic..... 3                                                                                     |
| ECET 250 Digital Logic ..... 4                                                                                    | ECET 304 Power and Devices ..... 3                                                                                |
| ECET 304 Power and Devices..... 3                                                                                 | ECET 350 Microprocessor Fundamentals ..... 4                                                                      |
| ECET 350 Microprocessor Fundamentals ..... 4                                                                      | ECET 352 Digital Circuits and Systems..... 4                                                                      |
| ECET 352 Digital Circuits and Systems..... 4                                                                      | ECET 385 Programmable Logic Controllers..... 3                                                                    |
| ECET 385 Programmable Logic Controllers..... 3                                                                    | ETB 310 Applied Data Analysis and Tools ..... 3                                                                   |
| ETB 310 Applied Data Analysis and Tools ..... 3                                                                   | ETB 482 Senior Design Project I..... 1                                                                            |
| ETB 482 Senior Design Project I ..... 1                                                                           | ETB 483 Senior Design Project II..... 1-3                                                                         |
| ETB 483 Senior Design Project II..... 2                                                                           | MET 111 Technical Graphics ..... 3                                                                                |
| MET 111 Technical Graphics ..... 3                                                                                | MET 121 Manufacturing Methods..... 3                                                                              |
| MET 121 Manufacturing Methods..... 3                                                                              | MET 211 Statics..... 3                                                                                            |
| MET 211 Statics..... 3                                                                                            | MET 230 Automated Manufacturing Systems I . 3                                                                     |
| MET 230 Automated Manufacturing Systems I .. 3                                                                    | MET 245 Materials Strength & Testing..... 3                                                                       |
| MET 245 Materials Strength & Testing..... 3                                                                       | MET 246 Dynamics of Machines ..... 3                                                                              |
| MET 246 Dynamics of Machines ..... 3                                                                              | MET 264 Machine Design Technology I..... 4                                                                        |
| MET 264 Machine Design Technology I..... 4                                                                        | MET 382 Industrial Instrumentation<br>And Controls..... 3                                                         |
| MET 382 Industrial Instrumentation<br>And Controls..... 3                                                         |                                                                                                                   |
| <b>Technical Electives (9 credit hours)</b>                                                                       | <b>Technical Electives (9 credit hours)</b>                                                                       |
| Choose <del>three</del> from the following electives:                                                             | Choose <del>9 credit hours</del> from the following electives:                                                    |
| CMST 250 Hardware and Network Fundamentals. 3                                                                     | CMST 250 Hardware and Network Fundamentals. 3                                                                     |
| CMST 270 Introduction to Unix..... 3                                                                              | CMST 270 Introduction to Unix ..... 3                                                                             |
| ECET 430 Signals and Systems..... 3                                                                               | ECET 430 Signals and Systems ..... 3                                                                              |
| MET 117 Mechanical Detailing ..... 3                                                                              | ETB 483* Senior Design Project II..... 1                                                                          |
| MET 125 CNC Machine Processes..... 2                                                                              | MET 117 Mechanical Detailing ..... 3                                                                              |
| MET 252 Fluid Power Technology..... 3                                                                             | MET 125 CNC Machine Processes..... 2                                                                              |
| MET 346 Elements of Mechanisms ..... 3                                                                            | MET 252 Fluid Power Technology..... 3                                                                             |
| MET 481 Automated Manufacturing Systems II . 3                                                                    | MET 346 Elements of Mechanisms ..... 3                                                                            |
|                                                                                                                   | MET 481 Automated Manufacturing Systems II . 3                                                                    |
|                                                                                                                   | STAT 325 Introduction to Statistics ..... 3                                                                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>STAT 325 Introduction to Statistics ..... 3<br/> <i>Other electives may be used if approved by program faculty.</i></p> <p><b>Math requirements (14 credit hours)</b><br/> MATH 100 College Algebra ..... 3<br/> MATH 150 Trigonometry ..... 3<br/> MATH 220 Analytic Geometry &amp; Calculus I ..... 4<br/> MATH 221 Analytic Geometry &amp; Calculus II ..... 4</p> <p><b>Other requirements (24 credit hours)</b><br/> CHM 110 General Chemistry ..... 3<br/> CHM 111 General Chemistry Laboratory ..... 1<br/> COMM 106 Public Speaking I ..... 3<br/> ENGL 100 Expository Writing I ..... 3<br/> ENGL 200 Expository Writing II ..... 3<br/> ENGL 302 Technical Writing ..... 3<br/> PHYS 113 General Physics I ..... 4<br/> PHYS 114 General Physics II ..... 4</p> <p><b>Other electives (12 credit hours, 6 credits upper level)</b><br/> Business elective ..... 3<br/> Humanities/Social science elective ..... 3<br/> Humanities/Social science/Business elective* ..... 3<br/> Humanities/Social science elective* .... 3<br/> <i>*Marked electives must be upper-level courses, 300 and above</i></p> | <p><i>Other electives may be used if approved by program faculty.</i><br/> <u><i>* ETB 483 may be taken for an extra credit hour if needed to complete 9 credit hours of technical electives.</i></u></p> <p><b>Math requirements (14 credit hours)</b><br/> MATH 100 College Algebra ..... 3<br/> MATH 150 Trigonometry ..... 3<br/> MATH 220 Analytic Geometry &amp; Calculus I ..... 4<br/> MATH 221 Analytic Geometry &amp; Calculus II ..... 4</p> <p><b>Other requirements (24 credit hours)</b><br/> CHM 110 General Chemistry ..... 3<br/> CHM 111 General Chemistry Laboratory ..... 1<br/> COMM 106 Public Speaking I ..... 3<br/> ENGL 100 Expository Writing I ..... 3<br/> ENGL 200 Expository Writing II ..... 3<br/> ENGL 302 Technical Writing ..... 3<br/> PHYS 113 General Physics I ..... 4<br/> PHYS 114 General Physics II ..... 4</p> <p><b>Other electives (12 credit hours, 6 credits upper level)</b><br/> Business elective ..... 3<br/> Humanities/Social science elective ..... 3<br/> Humanities/Social science/Business elective** ..... 3<br/> Humanities/Social science elective**.. 3<br/> <i>**Marked electives must be upper-level courses, 300 and above</i></p> |
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## Rationale:

This proposal reduces the total credit hours for the ETB-RA degree to 120 hours as required by KBOR. This is accomplished by a reduction of the credit hours for the ECET 250 (Digital Logic) course from 4 hours to 3 hours.

In addition, students electing to take a 2 credit hour technical elective course are given the option to take ETB 483 (Senior Design Project II) for an additional credit hour to complete 9 credit hours of technical electives.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impact on other units

**Veterinary Medicine**

Diagnostic Medicine/Pathobiology

**Agricultural Biosecurity Research Graduate Certificate**

Agricultural Biosecurity Research Graduate Certificate  
Dr. Dana Vanlandingham  
email: dlvanlan@vet.ksu.edu, phone: 785-532-1369

## **A. Introduction**

The 18-credit hour Agricultural Biosecurity Research Graduate Certificate is designed to foster the development of research scientists to safely plan and execute research in a variety of biosafety level environments (BSL-2, BSL-3, and BSL-4). This interdisciplinary certificate will instill common biosafety, containment, and regulatory compliance knowledge and skills that are required to work in high and maximum containment research facilities. The certificate will also provide a deeper understanding of the agents and toxins which are frequently studied in these facilities.

The Agricultural Biosecurity Research Graduate Certificate is offered through the College of Veterinary Medicine to non-degree and degree seeking graduate and Doctor of Veterinary Medicine (DVM) students who plan to work in high and maximum containment facilities. Students will develop an appreciation, and necessary skills, for the exacting performance standards required in these complex and demanding work environments.

Students with a graduate standing and a 3.0 GPA or higher in the field of biological sciences or a cumulative GPA of 3.0 or higher in the DVM curriculum are eligible to enroll in this program. Possible exceptions can be made upon the approval of the Agricultural Biosecurity Research Graduate Certificate Coordinator in consultation with associated faculty.

Courses available through this certificate may be included in the student's graduate program of study with approval from the student's major professor and advisory committee. Course credit from other related programs or institutions may be substituted for credit in this certificate program with approval from the Agricultural Biosecurity Research Graduate Certificate Coordinator in consultation with associated faculty.

### **Statement of the Educational Objectives**

To receive the certificate, students must complete the required 18-credit hours of graduate coursework which consists of 12-credit hours of core courses and 6-credit hours from participating academic programs focusing on an area of specialization. This integrated training approach for the Agricultural Biosecurity Research Graduate Certificate has three educational objectives:

1. demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility;
2. demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems; and

3. demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment.

## **B. Curriculum Overview**

### **Certificate Program Courses (18 credit hours total)**

#### **Core Courses: 12 Credits Required**

|           |       |                                                                 |
|-----------|-------|-----------------------------------------------------------------|
| DMP 690   | 1 cr. | Essential Practices for BSL-3 Research Settings                 |
| DMP 691   | 2 cr. | Introduction to High Containment Research Topics and Techniques |
| DMP 846   | 3 cr. | Foundations of Biosecurity                                      |
| DMP 893   | 3 cr. | Principles of Biosafety and Biocontainment                      |
| DMP 895-B | 3 cr. | Select Agent Studies                                            |

#### **Elective Courses: 6 Credits Required**

|           |       |                                                          |
|-----------|-------|----------------------------------------------------------|
| AGEC 610  | 3 cr. | Current Agriculture and Natural Resource Policy Issues   |
| DMP 770   | 3 cr. | Emerging Diseases                                        |
| DMP 844   | 3 cr. | Global Health Issues                                     |
| DMP 855   | 3 cr. | Disease Detection, Surveillance and Risk Assessment      |
| DMP 871   | 3 cr. | Molecular Diagnostics of Infectious Diseases             |
| DMP 895-A | 3 cr. | Transboundary Animal Diseases                            |
| FDSCI 600 | 2 cr. | Food Microbiology                                        |
| FDSCI 730 | 2 cr. | A Multidisciplinary Overview of Food Safety and Security |
| FDSCI 731 | 2 cr. | Food Protection and Defense-Essential Concepts           |
| FDSCI 753 | 3 cr. | Risk Assessment for Food, Ag & Vet Med                   |

*Please note that other classes may be approved by the program director and associated faculty.*

### **Core Course Descriptions (12 Credits Required):**

#### **DMP 690 – Essential Practices for BSL-3 Research Settings (1 credit)**

This hands-on laboratory centered course will offer students functional skills training and an in-depth understanding of standard microbiological practices, principles and techniques necessary to safely and successfully conduct research in a Biosafety Level 3 setting.

#### **DMP 691 – Introduction to High Containment Research Topics and Techniques (2 credits)**

This course examines the rationale behind the skills and techniques taught in Essential Practices for BSL-3 Research Settings. Students will gain familiarity with case studies, scientific readings, and laboratory research papers. Students review and discuss research

papers, topics, and practices related to biological agents and toxins appropriate for research conducted in biosafety level 3, BSL-3, ABSL-3, and BSL-3Ag facilities.

**DMP 846 – Foundations of Biosecurity (3 credits)**

The course examines the biosecurity policies and procedures required in high and maximum containment research facilities. It provides a historical perspective of biosecurity, establishes definitions, and explores concepts related to personnel, governmental, and contemporary biosecurity topics. Agro-security topics are highlighted providing a perspective on risk and threat assessment to public health and institutional, local, regional, national, and global threats.

**DMP 893 – Principles of Biosafety and Biocontainment (3 credits)**

This graduate course will introduce participants to the advanced and administrative principles of biosafety and biocontainment. The course targets future P.I.'s, lab managers, and individuals with previous high containment research experience. Specific topics include laboratory biosafety levels, special considerations for agriculture and animal labs, facility and building design, regulations, biosafety practices and procedures, and risk assessment processes required in high and maximum containment research facilities.

**DMP 895-B – Select Agent Studies (3 credits)**

This course provides an in-depth study of select agent regulations and guidance. Specific topics include a historical overview of select agent regulations, program rationales, tier one regulations, personal suitability assessments, inventory systems, and oversight. Additional content will look outside the select agent program and address other regulations and guidelines which impact high containment research such as Dual-Use regulations and the NIH Guidelines for Recombinant DNA. The course will also introduce students to specific agents covered under the select agent program and review characteristics and research considerations when working with these agents.

**Elective Course Descriptions (6 Credits Required):**

**AGEC 610 - Current Agriculture and Natural Resource Policy Issues (3 credits)**

Current issues in agricultural and natural resource policy from divergent perspectives. Classroom discussion, debate, writing assignments, and student presentations. Current events are analyzed and synthesized from both economic and noneconomic perspectives. Topics may include environmental issues, international agricultural development, the politics of farm programs, and the relationship between technology, agriculture, and society.

**DMP 770 – Emerging Diseases (3 credits)**

An investigation into recently identified emerging diseases, the conditions that enable their emergence, and the human health implications of each disease.

**DMP 844 - Global Health Issues (3 credits)**

A review of global health problems and various strategies to manage international health concerns. The class is open to graduate students, including veterinary students, with an interest in public health that have at least 12 hours in biology or related courses.

**DMP 855 - Disease Detection, Surveillance and Risk Assessment (3 credits)**

The course is focused on understanding the principles underlying quantitative risk assessments and disease detection/surveillance systems suited to a variety of animal health and food safety applications. These will then be used to advance the practical application of risk assessment and disease detection in the development of valid and useful herd, regional and national disease surveillance programs.

**DMP 871 - Molecular Diagnostics of Infectious Diseases (3 credits)**

This graduate course is aimed at reviewing and evaluating new and improved molecular diagnostic methods for infectious diseases. Theory, development, and applications of molecular diagnostic tests will be discussed in the context of current literature. This course will provide an opportunity for students to learn and apply recent advances in the development of molecular diagnostic test.

**DMP 895-A - Transboundary Animal Diseases (3 credits)**

This course will allow students to explore clinical and pathological manifestations of specific transboundary and foreign animal diseases identified as agents of concern in the United States. Students will participate in lecture discussions and will prepare a written report based on a recent transboundary disease outbreak.

**FDSCI 600 - Food Microbiology (2 credits)**

This course deals with the isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing. Effects of physical and chemical agents on micro-organisms will be studied. Microbiological problems in food spoilage, food preservation, food fermentation, and food-borne diseases will be discussed.

**FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2 credits)**

Multidisciplinary food safety and security perspectives provided by numerous subject matter experts. Topics include food safety policy, ag bioterrorism, border security, animal ID, food defense and site security, risk analysis, crisis communication, epidemiology, HACCP, and more.

**FDSCI 731 - Food Protection and Defense-Essential Concepts (2 credits)**

This course presents foundational concepts relevant to protecting the food supply from intentional contamination, including the nature of the food and agriculture system as a critical infrastructure, threats to food and agricultural systems, as well as concepts and strategies related to response and mitigation of food protection incidents.

**FDSCI 753 - Risk Assessment for Food, Ag, & Vet Med (3 credits)**

Risk assessment principles as applied to biological systems. Exposure and effects characterization in human and animal health and ecological risk assessment. Risk analysis frameworks and regulatory decision-making. Introduction to quantitative methods for risk assessment using epidemiological and distributional analyses. Uncertainty analysis.

**C. Meeting Educational Objectives**

The core and elective classes will meet the stated educational objectives of (1) demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility; (2) demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems; and (3) demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment.

The 12 core credit hours of classes are taught by researchers with extensive experience conducting research on infectious agents in high containment facilities. Guest lecturers for the courses are subject matter experts in fields related to various aspects of high containment research. As needed, core classes are taught on-site at the Biosecurity Research Institute (BRI) located in Pat Roberts Hall at KSU utilizing the BSL-3 simulator training laboratory to enable students to develop and enhance their laboratory skills. These classes bring a unique combination of researchers with expertise in high containment research, subject matter experts with broad experience working in the high containment environment, and the opportunity to utilize the BSL-3 simulator training laboratory to enable assessment and discussion of best practices.

Of the core classes, DMP 690 Essential Practices for BSL-3 Research Settings and DMP 691 Introductions to High Containment Research Topics and Techniques, are designed to meet the first educational objective of providing the student with the knowledge base to function safely and securely in a biocontainment facility as a researcher, Principal Investigator, or support personnel. The classes DMP 846 Foundations of Biosecurity, DMP 893 Principles of Biosafety and Biocontainment, and DMP 895-B Select Agent Studies will meet the second educational objective of providing the student the base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems. The third educational objective will be met by all the classes by providing the student with the ability to communicate orally and in the written form, as required for work in a high containment environment.

**D. Statement of Need**

This certificate program aligns with K-State's 2025 themes 1, 3, 4, 5 and 6 and strongly supports these overall visionary goals. The academic and research experiences available through this certificate will help address the critical need for a skilled workforce which will be required when the National Bio and Agro-Defense Facility (NBAF) opens in Manhattan,

Kansas in 2022. According to the Department of Homeland Security administrators, there will be approximately 300 new jobs available at the NBAF; 100 of these will be at the scientist level working in BSL-3 and BSL-4 conditions. This Agricultural Biosecurity Research Graduate Certificate will address the need for skilled workers with a good understanding of how to function safely and securely in this high consequence and highly regulated environment. Recipients of this certificate should stand out in a competitive job market. Additionally, the certificate will provide students with invaluable background knowledge and experience related to the field of high containment agricultural research which should benefit students interested in working with the anticipated new businesses generated by NBAF's presence in the animal health corridor.

#### **E. Certificate Administration**

The certificate program will be administrated through the Veterinary Biomedical Science (VBS) program. The VBS will process applications for the certificate in accordance with their current procedures for non-degree and degree seeking students. Once the student is admitted to the Graduate School, the application will be sent to the Agricultural Biosecurity Research Graduate Certificate Admissions Committee, which will consist of three professors or other experts who are currently working in this field, for acceptance determination. The Agricultural Biosecurity Research Graduate Certificate Program Committee will consist of three researchers and/or subject matter experts who will provide oversight for the certificate program administration.

#### **F. Estimated Budget**

The Agricultural Biosecurity Research Graduate Certificate will be supported through the College of Veterinary Medicine (CVM) VBS program for administrative support and oversight from the VBS Director. The CVM will also support 10% salary for the Agricultural Biosecurity Research Graduate Certificate Coordinator.

#### **G. Faculty**

Dana L. Vanlandingham, PhD, Associate Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Stephen Higgs, PhD, Associate Vice President for Research, Biosecurity Research Institute Director, Kansas State University Distinguished Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Alfonso Torres, DVM, PhD, Associate Dean for Public Policy, Cornell University, Adjunct Faculty, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Bradley Njaa, DVM, M.Sc. Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Yan-Jang Scott Huang, PhD, Research Assistant Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Greg Peterson, PhD, Research Assistant Professor, Biosecurity Research Institute, Kansas State University.

#### **H. Graduate Certificate Coordinator**

Dana L. Vanlandingham  
1041 Pat Roberts Hall, Manhattan, KS 66506-7600

#### **I. Student Learning Outcomes and Assessment plan**

SLO1: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility:

- a. demonstrating skills needed to safely work in a high containment laboratory through hands on experience which will be scored by the professor using a check list and rubric;
- b. demonstrating the ability to write standard operating procedures and complete regulatory approval forms needed to conduct work in high containment as demonstrated by developing a project specific notebook.

SLO2: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems by:

- a. using the knowledge base presented from lectures, readings, and discussions, students will develop risk assessments for high containment work;
- b. using the knowledge base presented from lectures, readings, and discussions, students will develop a floorplan of the high containment laboratory and support spaces, associated layout of security and controls systems, and description of security and control features for a Tier One High Containment facility.

SLO3: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate ability to communicate orally and in the written form as required for work in a high containment environment:

- a. presenting oral presentations which will be assessed for clear and concise presentation and delivery skills by the professor based on a rubric;
- b. developing written projects which will be assessed for clear and concise writing by the professor based on a rubric.

## J. Endorsements/ Support

1. **From:** John Floros [mailto:floros@ksu.edu]  
**Sent:** Monday, January 8, 2018 4:05 PM  
**To:** Dana L. Vanlandingham <dlvanlan@bri.ksu.edu>  
**Subject:** RE: Request for letter of support for Proposed Certificate Program

Dear Dana,

We in the College of Agriculture don't have any issues with your proposal and we are supportive. However, I urge you to work closely with our unit leadership in AGECE (Allen Featherstone) and FDSCI (Randy Phebus) to make sure there are no problems with the courses listed and planned from these two programs.

Best,  
John

John D. Floros  
Dean, College of Agriculture  
Director, K-State Research and Extension  
Kansas State University  
114 Waters Hall  
Manhattan, KS 66506-4008  
Tel: 785-532-7137  
Fax: 785-532-6563  
Email: floros@ksu.edu

2. **From:** Brian Spooner [mailto:spoon1@ksu.edu]  
**Sent:** Thursday, January 18, 2018 1:33 PM  
**To:** Dana L. Vanlandingham <dlvanlan@bri.ksu.edu>  
**Cc:** Brian Spooner <spoon1@ksu.edu>  
**Subject:** Graduate Certificate Support

Dear Dr. Vanlandingham,  
Thank you for the opportunity to review your proposed graduate certificate. I support this offering, and see no conflict with the Division of Biology, subject to the one change that we previously agreed on, and which you have made.  
Good luck with the program.

Best wishes,  
Brian  
Brian S. Spooner, PhD  
University Distinguished Professor and Director, Division of Biology  
Kansas State University, 1717 Claflin Rd, Manhattan, Ks 66506

| <b>SLO/Required Courses/Experiences</b>                                                                                                                                                                                                | <b>Course Number(s)</b> | <b>Course Number(s)</b> | <b>Course Number(s)</b> | <b>Course Number(s)</b> | <b>In Class Projects</b> | <b>Project Notebook</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
| <b>Degree Program SLOs</b>                                                                                                                                                                                                             | DMP 690<br>DMP 691      | DMP 846                 | DMP 893                 | DMP 895-B               |                          |                         |
| 1. Demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility                                                                                               | X                       |                         | X                       | X                       | A                        | A                       |
| 2. Demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the functioning and design of biocontainment systems |                         | X                       | X                       | X                       | A                        | A                       |
| 3. Demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment                                                                                                           | X                       | X                       | X                       | X                       | A                        | A                       |
| <b>University SLOs (Graduate Programs)</b>                                                                                                                                                                                             |                         |                         |                         |                         |                          |                         |
| Knowledge                                                                                                                                                                                                                              | X                       | X                       | X                       | X                       | A                        | A                       |
| Skills                                                                                                                                                                                                                                 | X                       | X                       | X                       | X                       | A                        | A                       |
| Attitudes and Professional Conduct                                                                                                                                                                                                     | X                       | X                       | A                       | X                       | A                        |                         |

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

- 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 courses, evaluation of final thesis, report, dissertation).

## Appendix B: SLO Associated Rubrics

### SLO 1 Associated Rubrics

#### DMP 690 Project Notebook Rubric

| Criteria                                         | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b>                            |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure                                        | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics                                        | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>                                   |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Project Description                              | The scope of the project is not clearly explained. (0-7 points)                                                        | The scope of the project is explained adequately. (8-9 points)                                                                      | The scope of the project is explained fully, clearly, and concisely. (10 points)                                           | / 10   |
| Place (Facility Design)                          | The overall facility design is not clearly explained. (0-7 points)                                                     | The overall facility design is explained adequately. (8-9 points)                                                                   | The facility design description is explained fully, clearly, and concisely. (10 points)                                    | / 10   |
| Protective Equipment                             | The project PPE requirements are not clearly explained. (0-7 points)                                                   | The project PPE requirements are explained adequately. (8-9 points)                                                                 | The project PPE requirements are explained fully, clearly, and concisely. (10 points)                                      | / 10   |
| Procedure and Work Practices (SOP#1)             | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures explained fully, clearly, and concisely. (10 points)                                       | / 10   |
| Pathogen Description                             | The characteristics of the pathogen are not clearly explained. (0-7 points)                                            | The pathogen characteristics are explained adequately. (8-9 points)                                                                 | The pathogen characteristics are explained fully, clearly, and concisely. (10 points)                                      | / 10   |
| Procedures and Work Practices (Chemical Hygiene) | The project chemical requirements and hazards are not clearly explained. (0-7 points)                                  | The project chemical requirements and hazards are explained                                                                         | The chemical requirements and hazards are explained                                                                        | / 10   |

|                                               |                                                                                   |                                                                                  |                                                                                                |       |
|-----------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------|
|                                               |                                                                                   | adequately. (8-9 points)                                                         | fully, clearly, and concisely. (10 points)                                                     |       |
| Procedure and Work Practices (SOP#1 Revision) | The project specific procedures are not clearly explained. (0-7 points)           | The project specific procedures are explained adequately. (8-9 points)           | The project specific procedures are explained fully, clearly, and concisely. (10 points)       | / 10  |
| Procedure and Work Practices (SOP#2)          | The project specific procedures are not clearly explained. (0-7 points)           | The project specific procedures are explained adequately. (8-9 points)           | The project specific procedures explained fully, clearly, and concisely. (10 points)           | / 10  |
| Procedure and Work Practices (SOP#3)          | The project specific procedures are not clearly explained. (0-7 points)           | The project specific procedures are explained adequately. (8-9 points)           | The project specific explained fully, clearly, and concisely. (10 points)                      | / 10  |
| Personnel (Occupational Medicine Form)        | The project occupational medical concerns are not clearly explained. (0-7 points) | The project occupational medical concerns are explained adequately. (8-9 points) | The project occupational medical concerns explained fully, clearly, and concisely. (10 points) | / 10  |
| Procedures and Work Practices (IBC Form)      | The project IBC requirements are not clearly explained. (0-28 points)             | The project IBC requirements are explained adequately. (29-36 points)            | The project IBC requirements are explained fully, clearly, and concisely. (37-40 points)       | / 40  |
| Final Exam: IACUC Form                        | The project IACUC requirements are not clearly explained. (0-28 points)           | The project IACUC requirements are explained adequately. (29-36 points)          | The project IACUC requirements are explained fully, clearly, and concisely. (37-40 points)     | / 40  |
| <b>Total Points</b>                           |                                                                                   |                                                                                  |                                                                                                | / 200 |

### DMP 691 In-Class Oral Presentation Rubric

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                                      | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                                  |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                                     | / 10   |
| Presentation         | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the allotted 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                          | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                                  |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                                | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                                  | / 100  |

### DMP 893 Project #1 Rubric: Design of laboratory

| Criteria              |                               | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b> |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure             |                               | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics             |                               | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>        |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Project Narrative     | Backstory                     | The backstory is not clearly explained. (0-7 points)                                                                   | The backstory is explained adequately. (8-9 points)                                                                                 | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points)                                    | / 10   |
|                       | Research Project in the Space | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| Layout                | Office and Admin Space        | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-2 Lab(s)                  | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-3 Lab(s)                  | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |

|                         |                                     |                                                                               |                                                 |                                                                                |      |
|-------------------------|-------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------|------|
|                         | Specialized Space #1 (required)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Specialized Space #2 (optional)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Support Space                       | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Floorplans and Diagrams | Master Floorplan                    | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Air Handling Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Liquid Waste Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Solid Waste Diagram                 | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Physical Security Measures Diagram  | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Detailed Space Plans    | BSL-2 Lab                           | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | BSL-3 Lab                           | It is unclear how the space is                                                | The space is designed                           | The design of the space is clear and                                           | / 10 |

|                     |                                 |                                                                              |                                                |                                                                               |       |
|---------------------|---------------------------------|------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------|-------|
|                     |                                 | designed or how it will be used. (0-7 points)                                | adequately. (8-9 points)                       | its intended use is evident. (10 points)                                      |       |
|                     | Specialized Space #1            | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10  |
|                     | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10  |
| <b>Total Points</b> |                                 |                                                                              |                                                |                                                                               | / 200 |

### DMP 893 Project #2 Rubric: In-Class Oral Presentation

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                             | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                            | / 10   |
| Presentation         | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                 | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                       | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         | / 100  |

### DMP 895-B Project #2 Rubric: Project Notebook

| Criteria                                                  | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b>                                     |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure                                                 | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics                                                 | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>                                            |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| FSAP 1 Sec. 1C: Entity Abstract                           | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| FSAP 1 Sec. 7C: Description of Work                       | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC)  | The possible project DURC violations (if any) are not clearly explained. (0-7 points)                                  | The possible project DURC violations (if any) are explained adequately. (8-9 points)                                                | The possible project DURC violations (if any) are explained clearly and concisely. (10 points)                             | / 10   |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| SOP #1                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| SOP #2                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |

|                                              |                                                                         |                                                                        |                                                                                          |       |
|----------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------|
| SOP #3                                       | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10  |
| Biological Engagement Program (BEP) Abstract | BEP proposal not well explained. (0-7 points)                           | BEP proposal has plausible proposal. (8-9 points)                      | Clear and concise BEP proposal. (10 points)                                              | / 10  |
| <b>Total Points</b>                          |                                                                         |                                                                        |                                                                                          | / 100 |

## **SLO 2 Associated Rubrics**

### **DMP 846 Midterm Rubric**

| <b>Criteria</b>                                                                                | <b>Minimal</b>                                                                                                       | <b>Average</b>                                                                                                       | <b>Exceptional</b>                                                                                                        | <b>Points</b> |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------|
| Identify the most critical biosafety problem of the laboratory.                                | The biosafety problem identified was not the most critical for the laboratory. (0-3 points)                          | The biosafety problem identified was amongst the most critical for the laboratory. (4 points)                        | The biosafety problem identified is the most critical facing the laboratory. (5 points)                                   | /5            |
| Describe a mitigation strategy to address the biosafety problem identified.                    | The mitigation strategy does not address the underlying causes of the biosafety problem. (0-3 points)                | The mitigation strategy addresses a few of the causes of the biosafety problem identified. (4 points)                | The mitigation strategy completely address the root causes of the biosafety problem identified. (5 points)                | /5            |
| Identify the most critical biosafety or biosecurity problem of the laboratory.                 | The biosafety or biosecurity problem identified was not the most critical for the laboratory. (0-3 points)           | The biosafety or biosecurity problem identified was amongst the most critical for the laboratory. (4 points)         | The biosafety or biosecurity problem identified is the most critical facing the laboratory. (5 points)                    | /5            |
| Describe a mitigation strategy to address the biosafety or biosecurity problem identified.     | The mitigation strategy does not address the underlying causes of the biosafety or biosecurity problem. (0-3 points) | The mitigation strategy addresses a few of the causes of the biosafety or biosecurity problem identified. (4 points) | The mitigation strategy completely address the root causes of the biosafety or biosecurity problem identified. (5 points) | /5            |
| Identify the most critical physical/procedural security problem of the laboratory.             | The biosafety or biosecurity problem identified was not the most critical for the laboratory. (0-3 points)           | The biosafety or biosecurity problem identified was amongst the most critical for the laboratory. (4 points)         | The biosafety or biosecurity problem identified is the most critical facing the laboratory. (5 points)                    | /5            |
| Describe a mitigation strategy to address the physical/procedural security problem identified. | The mitigation strategy does not address the underlying causes of the biosafety or biosecurity problem. (0-3 points) | The mitigation strategy addresses a few of the causes of the biosafety or biosecurity problem identified. (4 points) | The mitigation strategy completely address the root causes of the biosafety or biosecurity problem identified. (5 points) | /5            |

|                                                                              |                                                                                                        |                                                                                                                 |                                                                                                  |     |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----|
| Make a recommendation to help improve existing legislation/programs.         | The recommendation made would not improve existing legislation/programs. (0-3 points)                  | The recommendation made would begin to address the issues facing the existing legislation/ programs. (4 points) | The recommendation made would help to improve the existing legislation/ programs. (5 points)     | /5  |
| Identify a national or local biorisk.                                        | The biorisk identified was not the most critical for the nation or local area. (0-3 points)            | The biorisk identified was amongst the most critical for the nation or local area. (4 points)                   | The biorisk identified is the most critical facing the nation or local area. (5 points)          | /5  |
| Describe a mitigation strategy for the national or local biorisk identified. | The mitigation strategy does not address the underlying causes of the biorisk identified. (0-3 points) | The mitigation strategy addresses a few of the causes of the biorisk identified. (4 points)                     | The mitigation strategy completely address the root causes of the biorisk identified. (5 points) | /5  |
| <b>Total Points</b>                                                          |                                                                                                        |                                                                                                                 |                                                                                                  | /45 |

## DMP 846 Final Rubric

| Criteria                                                                                       | Minimal                                                                                              | Average                                                                                           | Exceptional                                                                                     | Points |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------|
| Perform a risk assessment and identify the sources of risks associated with the proposed plan. | The risks identified was not the most critical for the success of the proposal. (0-7 points)         | The risks identified were amongst the most critical for the success of the proposal. (8-9 points) | The biosafety problem identified is the most critical facing the laboratory. (10 points)        | /10    |
| Describe a mitigation strategy to lower the impact of the risks identified.                    | The mitigation strategy does not address the underlying causes of the identified risks. (0-7 points) | The mitigation strategy addresses a few of the identified risks. (8-9 points)                     | The mitigation strategy completely address the root causes of the risks identified. (10 points) | /10    |
| Perform a risk assessment and identify the sources of risks associated with the proposed plan. | The risks identified was not the most critical for the success of the proposal. (0-7 points)         | The risks identified were amongst the most critical for the success of the proposal. (8-9 points) | The biosafety problem identified is the most critical facing the laboratory. (10 points)        | /10    |
| Describe a mitigation strategy to lower the impact of the risks identified.                    | The mitigation strategy does not address the underlying causes of the identified risks. (0-7 points) | The mitigation strategy addresses a few of the identified risks. (8-9 points)                     | The mitigation strategy completely address the root causes of the risks identified. (10 points) | /10    |
| <b>Total Points</b>                                                                            |                                                                                                      |                                                                                                   |                                                                                                 | /40    |

### DMP 893 Project #1 Rubric: Design of laboratory

| Criteria              |                               | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b> |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure             |                               | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics             |                               | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>        |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Project Narrative     | Backstory                     | The backstory is not clearly explained. (0-7 points)                                                                   | The backstory is explained adequately. (8-9 points)                                                                                 | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points)                                    | / 10   |
|                       | Research Project in the Space | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| Layout                | Office and Admin Space        | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-2 Lab(s)                  | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-3 Lab(s)                  | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |

|                         |                                     |                                                                               |                                                 |                                                                                |      |
|-------------------------|-------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------|------|
|                         | Specialized Space #1 (required)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Specialized Space #2 (optional)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Support Space                       | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Floorplans and Diagrams | Master Floorplan                    | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Air Handling Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Liquid Waste Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Solid Waste Diagram                 | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Physical Security Measures Diagram  | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Detailed Space Plans    | BSL-2 Lab                           | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | BSL-3 Lab                           | It is unclear how the space is designed or how it                             | The space is designed                           | The design of the space is clear and                                           | / 10 |

|                     |                                 |                                                                              |                                                |                                                                               |       |
|---------------------|---------------------------------|------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------|-------|
|                     |                                 | will be used. (0-7 points)                                                   | adequately. (8-9 points)                       | its intended use is evident. (10 points)                                      |       |
|                     | Specialized Space #1            | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10  |
|                     | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10  |
| <b>Total Points</b> |                                 |                                                                              |                                                |                                                                               | / 200 |

### DMP 893 Project #2 Rubric: In-Class Oral Presentation

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                              | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                             | / 10   |
| Presentation         | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                  | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                        | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          | /100   |

### DMP 895-B Project #2 Rubric: Project Notebook

| Criteria                                                  | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b>                                     |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure                                                 | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics                                                 | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>                                            |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| FSAP 1 Sec. 1C: Entity Abstract                           | The research project is not clearly explained.(0-7 points)                                                             | The research project is explained adequately. (8-9 points)                                                                          | The research project description explained fully, clearly, and concisely. (10 points)                                      | / 10   |
| FSAP 1 Sec. 7C: Description of Work                       | The research project is not clearly explained.(0-7 points)                                                             | The research project is explained adequately. (8-9 points)                                                                          | The research project description is clear and concise. (10 points)                                                         | / 10   |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC)  | The possible project DURC violations (if any) are not clearly explained. (0-7 points)                                  | The possible project DURC violations (if any) are explained adequately. (8-9 points)                                                | The possible project DURC violations (if any) are explained clearly and concisely. (10 points)                             | / 10   |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| SOP #1                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| SOP #2                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| SOP #3                                                    | The project specific procedures are not                                                                                | The project specific procedures are                                                                                                 | The project specific procedures are                                                                                        | / 10   |

|                                                    |                                                    |                                                          |                                                            |       |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------|-------|
|                                                    | clearly explained.<br>(0-7 points)                 | explained adequately.<br>(8-9 points)                    | explained fully,<br>clearly, and<br>concisely. (10 points) |       |
| Biological<br>Engagement Program<br>(BEP) Abstract | BEP proposal not<br>well explained.(0-7<br>points) | BEP proposal has<br>plausible proposal. (8-<br>9 points) | Clear and concise<br>BEP proposal. (10<br>points)          | / 10  |
| <b>Total Points</b>                                |                                                    |                                                          |                                                            | / 100 |

### SLO 3 Associated Rubrics

#### **DMP 690 Project Notebook Rubric**

| <b>Criteria</b>                      | <b>Minimal</b>                                                                                                         | <b>Average</b>                                                                                                                      | <b>Exceptional</b>                                                                                                         | <b>Points</b> |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Written Skills</b>                |                                                                                                                        |                                                                                                                                     |                                                                                                                            |               |
| Structure                            | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10          |
| Mechanics                            | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10          |
| <b>Content</b>                       |                                                                                                                        |                                                                                                                                     |                                                                                                                            |               |
| Project Description                  | The scope of the project is not clearly explained. (0-7 points)                                                        | The scope of the project is explained adequately. (8-9 points)                                                                      | The scope of the project is explained fully, clearly, and concisely. (10 points)                                           | / 10          |
| Place (Facility Design)              | The overall facility design is not clearly explained. (0-7 points)                                                     | The overall facility design is explained adequately. (8-9 points)                                                                   | The facility design description is explained fully, clearly, and concisely. (10 points)                                    | / 10          |
| Protective Equipment                 | The project PPE requirements are not clearly explained. (0-7 points)                                                   | The project PPE requirements are explained adequately. (8-9 points)                                                                 | The project PPE requirements are explained fully, clearly, and concisely. (10 points)                                      | / 10          |
| Procedure and Work Practices (SOP#1) | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are explained fully, clearly, and concisely. (10 points)                                   | / 10          |
| Pathogen Description                 | The characteristics of the pathogen are not clearly explained. (0-7 points)                                            | The pathogen characteristics are explained adequately. (8-9 points)                                                                 | The pathogen characteristics are explained fully, clearly, and concisely. (10 points)                                      | / 10          |

|                                                  |                                                                                       |                                                                                      |                                                                                                    |       |
|--------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------|
| Procedures and Work Practices (Chemical Hygiene) | The project chemical requirements and hazards are not clearly explained. (0-7 points) | The project chemical requirements and hazards are explained adequately. (8-9 points) | The chemical requirements and hazards are explained fully, clearly, and concisely. (10 points)     | / 10  |
| Procedure and Work Practices (SOP#1 Revision)    | The project specific procedures are not clearly explained. (0-7 points)               | The project specific procedures are explained adequately. (8-9 points)               | The project specific procedures are explained fully, clearly, and concisely. (10 points)           | / 10  |
| Procedure and Work Practices (SOP#2)             | The project specific procedures are not clearly explained. (0-7 points)               | The project specific procedures are explained adequately. (8-9 points)               | The project specific procedures are explained fully, clearly, and concisely. (10 points)           | / 10  |
| Procedure and Work Practices (SOP#3)             | The project specific procedures are not clearly explained. (0-7 points)               | The project specific procedures are explained adequately. (8-9 points)               | The project specific procedures are explained fully, clearly, and concisely. (10 points)           | / 10  |
| Personnel (Occupational Medicine Form)           | The project occupational medical concerns are not clearly explained. (0-7 points)     | The project occupational medical concerns are explained adequately. (8-9 points)     | The project occupational medical concerns are explained fully, clearly, and concisely. (10 points) | / 10  |
| Procedures and Work Practices (IBC Form)         | The project IBC requirements are not clearly explained. (0-28 points)                 | The project IBC requirements are explained adequately. (29-36 points)                | The project IBC requirements are explained fully, clearly, and concisely. (37-40 points)           | / 40  |
| Final Exam: IACUC Form                           | The project IACUC requirements are not clearly explained. (0-28 points)               | The project IACUC requirements are explained adequately. (29-36 points)              | The project IACUC requirements are explained fully, clearly, and concisely. (37-40 points)         | / 40  |
| <b>Total Points</b>                              |                                                                                       |                                                                                      |                                                                                                    | / 200 |

### DMP 691 In-Class Oral Presentation Rubric

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                             | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                            | / 10   |
| Presentation         | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                 | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                       | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                         | / 100  |

### DMP 846 Project 1 Part 1 Rubric: Personal Risk, Threat and Vulnerability Assessment

| Criteria                 | Minimal                                                                                                                                                               | Average                                                                                                                                                                 | Exceptional                                                                                                                                                                      | Points |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b>    |                                                                                                                                                                       |                                                                                                                                                                         |                                                                                                                                                                                  |        |
| Structure                | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points)                                                | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points)                                     | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points)                                                       | / 20   |
| Mechanics                | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                                                                     | The writing is relatively free of grammatical errors. (8-9 points)                                                                                                      | The writing contains no major grammatical errors. (10 points)                                                                                                                    | / 20   |
| <b>Content</b>           |                                                                                                                                                                       |                                                                                                                                                                         |                                                                                                                                                                                  |        |
| Risk Assessment          | The written submission presents limited information about the item and the risks (probability and consequence) associated with possessing it. (0-28 points)           | The written submission presents adequate information about the item and the risks (probability and consequence) associated with possessing it. (29-37 points)           | The written submission presents clear and concise information about the item and the risks (probability and consequence) associated with possessing it. (38-40 points)           | / 40   |
| Threat Assessment        | The written submission presents limited information about the item and the threats (probability and consequence) against it. (0-28 points)                            | The written submission presents adequate information about the item and the threats (probability and consequence) against it. (29-37 points)                            | The written submission presents clear and concise information about the item and the threats (probability and consequence) against it. (38-40 points)                            | / 40   |
| Vulnerability Assessment | The written submission presents limited information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (0-28 points) | The written submission presents adequate information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (29-37 points) | The written submission presents clear and concise information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (38-40 points) | / 40   |

|                     |                                                                                                                                |                                                                                                                                                                 |                                                                                                                              |       |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------|
| Risk Mitigation     | The written submission presents fewer than 2 detailed, scholarly mitigation strategies for each assessment type. (0-28 points) | The written submission presents 2 detailed, scholarly mitigation strategies or 3 or more cursory mitigation strategies for each assessment type. (29-37 points) | The written submission presents 3 or more detailed, scholarly mitigation strategies for each assessment type. (38-40 points) | / 40  |
| <b>Total Points</b> |                                                                                                                                |                                                                                                                                                                 |                                                                                                                              | / 200 |

**DMP 846 Project 1 Part 2 Rubric: In-Class Oral Presentation over enhancement of physical security features of laboratory to meet Tier 1 requirements**

| <b>Criteria</b>                  | <b>Minimal</b>                                                                                                                                                            | <b>Average</b>                                                                                                                                                  | <b>Exceptional</b>                                                                                                                                                                       | <b>Points</b> |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Verbal Skills</b>             |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |               |
| Communication                    | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                             | / 10          |
| Presentation                     | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10          |
| Discussion                       | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                  | / 10          |
| <b>Content</b>                   |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |               |
| Barriers                         | There are less than 3 barriers are present in the laboratory between the outside and the BSAT. (0-29 points)                                                              | There are 3 barriers present in the laboratory, but they are inappropriate for Tier 1 regulations. (30-37 points)                                               | There are 3 or more barriers present in the laboratory and they are appropriate for Tier 1 regulations. (38-40 points)                                                                   | / 30          |
| Intrusion Detection System (IDS) | IDS is not present in the building or a type that is not Tier 1 approved is present. (0-21 points)                                                                        | IDS is present in the laboratory, but it is placed inappropriately for Tier 1 regulations. (22-28 points)                                                       | IDS is present in the laboratory and is appropriate for Tier 1 regulations. (29 to 30 points)                                                                                            | / 40          |
| <b>Total Points</b>              |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          | / 100         |

### DMP 893 Project #1 Rubric: Design of laboratory

| Criteria              |                               | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b> |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure             |                               | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics             |                               | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>        |                               |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Project Narrative     | Backstory                     | The backstory is not clearly explained. (0-7 points)                                                                   | The backstory is explained adequately. (8-9 points)                                                                                 | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points)                                    | / 10   |
|                       | Research Project in the Space | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| Layout                | Office and Admin Space        | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-2 Lab (s)                 | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |
|                       | BSL-3 Lab (s)                 | It is unclear how the space is designed or how it will be used. (0-7 points)                                           | The space is designed adequately. (8-9 points)                                                                                      | The design of the space is clear and its intended use is evident. (10 points)                                              | / 10   |

|                         |                                     |                                                                               |                                                 |                                                                                |      |
|-------------------------|-------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------|------|
|                         | Specialized Space #1 (required)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Specialized Space #2 (optional)     | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Support Space                       | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Floorplans and Diagrams | Master Floorplan                    | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | Air Handling Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Liquid Waste Diagram                | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Solid Waste Diagram                 | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Physical Security Measures Diagram  | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
|                         | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
| Detailed Space Plans    | BSL-2 Lab                           | It is unclear how the space is designed or how it will be used. (0-7 points)  | The space is designed adequately. (8-9 points)  | The design of the space is clear and its intended use is evident. (10 points)  | / 10 |
|                         | BSL-3 Lab                           | It is unclear how the space is designed or how                                | The space is designed                           | The design of the space is clear and its intended use is                       | / 10 |

|                     |                                       |                                                                                          |                                                         |                                                                                           |       |
|---------------------|---------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------|-------|
|                     |                                       | it will be used.<br>(0-7 points)                                                         | adequately. (8-9<br>points)                             | evident. (10<br>points)                                                                   |       |
|                     | Specialized<br>Space #1               | It is unclear how<br>the space is<br>designed or how<br>it will be used.<br>(0-7 points) | The space is<br>designed<br>adequately. (8-9<br>points) | The design of the<br>space is clear and<br>its intended use is<br>evident. (10<br>points) | / 10  |
|                     | Specialized<br>Space #2<br>(optional) | It is unclear how<br>the space is<br>designed or how<br>it will be used.<br>(0-7 points) | The space is<br>designed<br>adequately. (8-9<br>points) | The design of the<br>space is clear and<br>its intended use is<br>evident. (10<br>points) | / 10  |
| <b>Total Points</b> |                                       |                                                                                          |                                                         |                                                                                           | / 200 |

### DMP 893 Project #2 Rubric: In-Class Oral Presentation

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                              | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                             | / 10   |
| Presentation         | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                  | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                        | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          | / 100  |

### DMP 895-B Project #1 Rubric: In-Class Oral Presentation, SME BSAT Topic

| Criteria             | Minimal                                                                                                                                                                   | Average                                                                                                                                                         | Exceptional                                                                                                                                                                              | Points |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Verbal Skills</b> |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Communication        | The presented information was not articulated clearly. (0-7 points)                                                                                                       | The presented information was articulated adequately. (8-9 points)                                                                                              | The presented information was articulated clearly and concisely. (10 points)                                                                                                             | / 10   |
| Presentation         | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10   |
| Discussion           | The discussion was limited due to the lack of questions from the presenter. (0-14 points)                                                                                 | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points)                                  | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points)                                                  | / 20   |
| <b>Content</b>       |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          |        |
| Scholarship          | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points)                                      | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points)                                              | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points)                                                        | / 60   |
| <b>Total Points</b>  |                                                                                                                                                                           |                                                                                                                                                                 |                                                                                                                                                                                          | / 100  |

## DMP 895-B Project #2 Rubric: Project Notebook

| Criteria                                                  | Minimal                                                                                                                | Average                                                                                                                             | Exceptional                                                                                                                | Points |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Written Skills</b>                                     |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| Structure                                                 | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10   |
| Mechanics                                                 | The writing has several major grammatical errors that are distracting to the reader. (0-7 points)                      | The writing is relatively free of grammatical errors. (8-9 points)                                                                  | The writing contains no major grammatical errors. (10 points)                                                              | / 10   |
| <b>Content</b>                                            |                                                                                                                        |                                                                                                                                     |                                                                                                                            |        |
| FSAP 1 Sec. 1C: Entity Abstract                           | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description explained fully, clearly, and concisely. (10 points)                                      | / 10   |
| FSAP 1 Sec. 7C: Description of Work                       | The research project is not clearly explained. (0-7 points)                                                            | The research project is explained adequately. (8-9 points)                                                                          | The research project description is explained fully, clearly, and concisely. (10 points)                                   | / 10   |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC)  | The possible project DURC violations (if any) are not clearly explained. (0-7 points)                                  | The possible project DURC violations (if any) are explained adequately. (8-9 points)                                                | The possible project DURC violations (if any) are explained clearly and concisely. (10 points)                             | / 10   |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are clear and concise. (10 points)                                                         | / 10   |
| SOP #1                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are clear and concise. (10 points)                                                         | / 10   |
| SOP #2                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are clear and concise. (10 points)                                                         | / 10   |
| SOP #3                                                    | The project specific procedures are not clearly explained. (0-7 points)                                                | The project specific procedures are explained adequately. (8-9 points)                                                              | The project specific procedures are clear and concise. (10 points)                                                         | / 10   |

|                                                       |                                                  |                                                          |                                                |       |
|-------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------|------------------------------------------------|-------|
| Biological<br>Engagement<br>Program (BEP)<br>Abstract | BEP proposal not well<br>explained. (0-7 points) | BEP proposal has<br>plausible proposal. (8-<br>9 points) | Clear and concise BEP<br>proposal. (10 points) | / 10  |
| <b>Total Points</b>                                   |                                                  |                                                          |                                                | / 100 |