**Ogden College of Science and Engineering**

**Office of the Dean**

**745-4449**

**REPORT TO THE UNIVERSITY CURRICULUM COMMITTEE**

Date: November 24, 2014

The Ogden College of Science and Engineering submits the following action items for consideration at the December 2014, UCC meeting:

1. New Business

|  |  |
| --- | --- |
| **Type of item** | **Description of Item & Contact Information** |
| Action | **Proposal to Revise a Program**  Ref. 508, Major in Agriculture, Agronomy-Plant Science Conc, 60 hrs  Contact: Todd Willian, [todd.willian@wku.edu](mailto:todd.willian@wku.edu), x5969 |
| Action | **Proposal to Make Multiple Revisions to a Course**  AMS 180, Introduction to Architectural Practice, 3 hrs.  Contact: Neal Downing, [neal.downing@wku.edu](mailto:neal.downing@wku.edu), x6302 |
| Action | **Proposal to Make Multiple Revisions to a Course**  AMS 282, Architectural Structures, 3 hrs.  Contact: Bryan Reaka, [bryan.reaka@wku.edu](mailto:bryan.reaka@wku.edu), x7032 |
| Action | **Proposal to Revise a Program**  Ref. 533, Construction Management, 76 hrs.  Contact: Bryan Reaka, [bryan.reaka@wku.edu](mailto:bryan.reaka@wku.edu), x7032 |
| Action | **Proposal to Create a New Minor Program**  Minor in Neuroscience, 21 hrs.  Contact: Sharon [Mutter@wku.edu](mailto:Mutter@wku.edu), x 4389 |

Proposal Date: September 23, 2014

**Ogden College of Science and Engineering**

**Department of Agriculture**

**Proposal to Revise A Program**

**(Action Item)**

Contact Person: Todd Willian, [todd.willian@wkul.edu](mailto:todd.willian@wkul.edu), (270) 745-5969

**1. Identification of program:**

* 1. Current program reference number: 508
  2. Current program title: Major in Agriculture, Agronomy-Plant Science Concentration
  3. Credit hours: 60

**2. Identification of the proposed program changes:**

* Reduce number of required hours from 60 to 52
* Add AGRO 317 and AGEC 391 to subcategory 2
* Add AGRI 315, AGRO 457 and AGRO 458 to subcategory 3
* Delete AGEC 362, AGRO 455/456 and AGRO 475 from subcategory 3
* Move AGRI 398 courses from subcategory 4 to subcategory 1
* Move AGRO 351 from subcategory 2 to subcategory 4
* Add a 1 hour laboratory (AGRO 111) to subcategory 4

**3. Detailed program description:**

**(Side-by-side table is required for most program changes showing revised program on the right and identifying deletions by strike-through and additions in boldface.)**

* See attached document

**4. Rationale for the proposed program change:**

* These revisions will allow program requirements listed in ICAP and those listed in the catalog to match, thus eliminating the need for ICAP Exception Appeal Form submissions.
* Moving AGRI 398 courses to subcategory 1 accurately reflects the 29 hours of required core agriculture courses.
* Additions to and deletions from subcategories 2 and 3 are based upon conversations with numerous agronomic industry personnel. These changes will better prepare students for careers in crop science.

**5. Proposed term for implementation and special provisions (if applicable): Fall 2015**

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department/ Unit | 9/18/2014 |
| College Curriculum Committee | 11-6-2014 |
| Professional Education Council (if applicable) |  |
| Undergraduate Curriculum Committee |  |
| University Senate |  |

|  |  |
| --- | --- |
| 1. Take the following required basic agriculture courses:   Select From:  AGRI 108  AGRO 110  ANSC 140  AGMC 170  AGMC 171  AGRI 291  AGRO 320  AGRO 350  AGEC 360  AGRI 494  Needs: 27 hours | 1. The following 29 hours of basic agriculture courses are required:   AGRO 110 (3 credit hours)  ANSC 140 (3)  AGMC 170/171 (3)  AGRI 108 (3)  AGRI 291 (3)  AGRO 320 (3)  AGRO 350 (3)  AGEC 360 (3)  **AGRI 398-001 (1)**  **AGRI 398-002 (1)**  AGRI 494 (3) |
| 1. Take the following courses from the Agronomy-Plant Science concentration:   Needs 22 hours  Select from:  AGRO 310  ~~AGRO 351~~  AGRO 352  AGEC 361  AGRO 409  AGRO 410  AGRO 414  AGRO 420  AGRO 421  AGRO 422 | 1. Select 18 credit hours from the following courses for the Agronomy- Plant Science concentration:   AGRO 310 (3)  **AGRO 317 (3)**  AGRO 352(3)  AGEC 361 (3)  **AGEC 391 (3)**  AGRO 409/410 (3)  AGRO 414 (3)  AGRO 420/421 (3)  AGRO 422 (3) |
| 1. Take three of the following courses.   Note: AGRO 455 and 456 must be taken together.  Needs: 3 sets  Select from:  ~~AGEC 362~~  AGRO 452  AGRO 454  ~~AGRO 455~~  ~~AGRO 456~~  ~~AGRO 475~~  AGRI 493 | 1. Select 3 credit hours from the following courses:   **AGRI 315 (3)**  AGRO 452 (3)  AGRO 454 (3)  **AGRO 457/458 (3)**  AGRI 493 (3) |
| 1. Take two AGRI 398 courses.   Needs: 2 hours  Select from:  ~~AGRI 398~~ | 1. The following laboratory courses are required:   **AGRO 111 (1)**  **AGRO 351 (1)** |

Proposal Date: 10/08/2014

**Ogden College of Science and Engineering**

**Department of Architectural and Manufacturing Sciences**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Neal Downing / [neal.downing@wku.edu](mailto:neal.downing@wku.edu) / 270-745-6302

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: AMS 180
  2. Course title: Introduction to Architectural Practices

**2. Revise course title:**

* 1. Current course title: Introduction to Architectural Practices
  2. Proposed course title: Introduction to Architecture
  3. Proposed abbreviated title: Introduction to Architecture
  4. Rationale for revision of course title: The simplified name is more accurate for course content

**3. Revise course number: NA**

* 1. Current course number:
  2. Proposed course number:
  3. Rationale for revision of course number:

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites/corequisites/special requirements: (indicate which)

Pre-requisite / Co-requisite: HIST 119 or 120

4.2 Proposed prerequisites/co-requisites/special requirements: none

4.3 Rationale for revision of course prerequisites/co-requisites/special requirements:

The History Department is no longer going to offer HIST 119 or 120. The students who have already passed HIST 119 or 120 prior to taking the course over the last several semesters have not shown any advantage over those students who have not already passed HIST 119 or 120 in this course.

4.4 Effect on completion of major/minor sequence: none

**5. Revise course catalog listing: NA**

* 1. Current course catalog listing:
  2. Proposed course catalog listing:
  3. Rationale for revision of course catalog listing:

**6. Revise course credit hours: NA**

* 1. Current course credit hours:
  2. Proposed course credit hours:
  3. Rationale for revision of course credit hours:

**7.** **Revise grade type: NA**

7.1 Current grade type:

7.2 Proposed grade type:

7.3 Rationale for revision of grade type:

**8. Proposed term for implementation: 201530**

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Architectural & Manufacturing Sciences | 10/10/2014 |
| Ogden College Curriculum Committee | **11/06/2014** |
| General Education Committee (if applicable) |  |
| Undergraduate Curriculum Committee |  |
| University Senate |  |

Proposal Date: Oct 4, 2014

**Ogden College of Science and Engineering**

**Architectural and Manufacturing Science Department**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Bryan Reaka, [bryan.reaka@wku.edu](mailto:bryan.reaka@wku.edu), 270-745-7032

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: AMS 282
  2. Course title: Architectural Structures

**2. Revise course title:**

* 1. Current course title: Architectural Structures
  2. Proposed course title: Building Structures
  3. Proposed abbreviated title: Building Structures
  4. Rationale for revision of course title: The course serves multiple disciplines in the building area, not just architectural sciences students. This name change better reflects the diverse content of the course.

**3. Revise course number: NA**

* 1. Current course number:
  2. Proposed course number:
  3. Rationale for revision of course number:

**4. Revise course prerequisites:**

4.1 Current prerequisites: AMS 261, MATH 117 (or equivalent), PHYS 201

4.2 Proposed prerequisites: MATH 117 or higher

4.3 Rationale for revision of course prerequisites: The Physics Department is no longer going to offer PHYS 201. The students who have already passed AMS 261 prior to taking the course over the last several semesters have not shown any advantage over those students who have not already passed AMS 261.

4.4 Effect on completion of major/minor sequence: This may allow students to matriculate more quickly through the program of study.

**5. Revise course catalog listing: NA**

* 1. Current course catalog listing:
  2. Proposed course catalog listing:
  3. Rationale for revision of course catalog listing:

**6. Revise course credit hours: NA**

* 1. Current course credit hours:
  2. Proposed course credit hours:
  3. Rationale for revision of course credit hours:

**7.** **Revise grade type: NA**

7.1 Current grade type:

7.2 Proposed grade type:

7.3 Rationale for revision of grade type:

**8. Proposed term for implementation: Fall 2015**

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department: Architectural and Manufacturing Sciences | **10-10-2014** |
| Ogden College Curriculum Committee | **11-06-2014** |
| Undergraduate Curriculum Committee |  |
| University Senate |  |

Proposal Date: October 4, 2014

**Ogden College of Science and Engineering**

**Department of Architectural and Manufacturing Sciences**

**Proposal to Revise a Program**

**(Action Item)**

Contact Person: Bryan Reaka, [bryan.reaka@wku.edu](mailto:bryan.reaka@wku.edu) 745-7032

**1. Identification of program:**

* 1. Current program reference number: 533
  2. Current program title: Construction Management
  3. Credit hours: 76

**2. Identification of the proposed program changes:**

Changes to Construction Management Major

* Replace CM337 with AMS 217
* Replace CM 346 with AMS 305
* Replace CM 426 with AMS 390
* Replace CM 400 with AMS 394
* Add AMS 371
* Add UC 400 as option for AMS 398
* Add AGMC 170/171 as option for CE 160/161
* Remove CM 463
* Remove ACCT 201
* Remove MGT 311
* Add MKT 220 or MKT 325 or FIN161 or FIN 161C or RE 170C or BUS 100C or BUS 102C or BUS 110C or BUS 250C or BUS 252C or MKT 390 or ENT 312 as options for ACCT 200
* Add AMS 430 or BUS 210C or BUS 245C or BUS 248C as options for MGT 210
* Add MGT 200 or MGMT 200C or MGT 314 or MGT 333 or MGT 365 or BUS 226C or PLS 190C as options for MGT 301
* Add ECO 150 or ECO 202 or ECON 203 or ECO 203 or ECON 375 or ECON 390 or BUS 160C or Bus 212C as options for ECON 150 or ECON 202
* Remove AMS 175
* Remove CIS 141
* Remove COMM 161
* Remove PHIL 320
* Remove CHEM 106 and CHEM 116
* Remove PHYS 201
* Remove SFTY 171
* Replace advisor approved electives with electives in the program
* Reduce number of hours in Construction Management Major from 76 to 66/67
* Add colonnade requirements
* Specify MATH 117 or higher as the students colonnade mathematics course

**3. Detailed program description:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CONSTRUCTION MANAGEMENT (OLD)** | | **76 hrs** |  |  | **Construction Management (New)** | **69/70** |
| AMS 140 | Intro to Occupational Safety | 1 hr |  | AMS 140 | Intro to Occupational Safety | 1 |
| AMS 163 | Architectural Drafting | 3 hrs |  | AMS 163 | Architectural Drafting | 3 |
| **CM 337** | **Applied Strength of Materials** | **3 hrs** |  | **AMS 217** | **Industrial Materials** | **3** |
| AMS 261 | Construction Methods & Materials | 3 hrs |  | AMS 261 | Construction Methods & Materials | 3 |
| AMS 262 | Construction Laboratory | 1 hr |  | AMS 262 | Construction Laboratory | 3 |
| AMS 282 | Architectural Structures | 3 hrs |  | AMS 282 | Structures | 3 |
| **CM 346** | **Applied Soil Mech. & Foundation** | **3 hrs** |  | **AMS 305** | **Building Codes** | **3** |
| AMS 325 | Survey of Building Systems | 3 hrs |  | AMS 325 | Survey of Building Systems | 3 |
| AMS 271 | Industrial Statistics | 3 hrs |  | AMS 271 | Industrial Statistics | 3 |
|  |  |  |  | **AMS 371** | **Quality Assurance** | **3** |
| **CM 426** | **Construction Law** | **3 hrs** |  | **AMS 390** | **Project Management** | **3** |
| **CM 400** | **Construction Admin.** | **3 hrs** |  | **AMS 394** | **Lean Systems** | **3** |
| **AMS 398** | **Internship I** | **1 hr** |  | **AMS 398 or UC 400** | **Internship I or Mentored Research Experience** | **1** |
| **CE 160/ 161** | **Surveying I /Lab** | **3/1 hrs** |  | **CE 160/161 or AGMC 170/171** | **Surveying I /Lab or Intro to Agricultural Mechanization/ Lab** | **4 or 3** |
| CE 303 | Construction Management | 3 hrs |  | CE 303 | Construction Management | 3 |
| CE 304 | Construction Management Lab | 1 hr |  | CE 304 | Construction Management Lab | 1 |
| CE 316 | Equipment & Methods | 3 hrs |  | CE 316 | Equipment & Methods | 3 |
| CM 250 | Contract Documents | 3 hrs |  | CM 250 | Contract Documents | 3 |
| CM 363 | Construction Estimating & Bidding | 3 hrs |  | CM 363 | Construction Estimating & Bidding | 3 |
| CM 462 | Construction Scheduling | 3 hrs |  | CM 462 | Construction Scheduling | 3 |
| AMS 490 | Senior Research | 3 hrs |  | AMS 490 | Senior Research | 3 |
| **CM 463** | **Construction Est. & Bid. II** | **3 hrs** |  |  | **Drop** |  |
| **ACCT 201** | **Intro. Account. Man.** | **3 hrs** |  |  | **Drop** |  |
| **MGT 311** | **Human Resources Mgt.** | **3 hrs** |  |  | **Drop** |  |
| **ACCT 200** | **Introductory Accounting Financial** | **3 hrs** |  | **ACCT 200, or MKT 220, or MKT 325 or FIN161 or FIN 161C or RE 170C or BUS 100C or BUS 102C or BUS 110C or BUS 250C or BUS 252C or MKT 390 or ENT 312** | **Introductory Accounting or Basic Marketing Concepts or Personal Selling or Personal Finance or Essentials of Real Estate or Intro to Business or Intro to Ethical Issues in Business or Basic Accounting or Business Entrepreneurship or Selling and Sales Management or Value Creation in Emerging Markets or Entrepreneurship** | **3** |
| **MGT 210** | **Organization & Management** | **3 hrs** |  | **AMS 430 or MGT 210 or BUS 210C or BUS 245C or BUS 248C** | **Tech Management/Supervision or Organization & Management or Managing Diversity in the Workplace or Supervisory Management** | **3** |
| **MGT 301** | **Business Law** | **3 hrs** |  | **MGT 200 or MGMT 200C or MGT 301 or MGT 314 or MGT 333 or MGT 365 or BUS 226C, or PLS 190C** | **Legal Environment of Business or Business Law or Operations Management or Management of Nonprofit Organization or Entrepreneurial Law or Introduction to Law or Intro Paralegal Studies** | **3** |
| **ECON 150 or ECON 202** | **Intro Economics / Principals of Economics** | **3 hrs** |  | **ECON 150 or ECO 150 or ECON 202 or ECO 202 or ECON 203 or ECO 203 or ECON 375 or ECON 390 or BUS 160C** | **Intro to Economics or Principles of Economics (Micro) or Principles of Economics (Macro) or Moral Issues of Capitalism or Economics, Law, and Public Choice or Financial Management** | 3 |
| **Additional Required Courses for Major** | |  |  |  |  |  |
| **AMS 175** | **University Experience** | **2 hrs** |  |  | **Drop** |  |
| **CIS 141** | **Basic Computer Literacy** | **3 hrs** |  |  | **Drop** |  |
| **COMM 161** | **Business & Prof Speaking** | **3 hrs** |  |  | **Drop** |  |
| **PHIL 320** | **Ethics** | **3 hrs** |  |  | **Drop** |  |
| **CHEM 106 and 116** | **Lab Fundamentals / Intro College Chemistry** | **3 hrs** |  |  | **Drop** |  |
| **1 hr** |  |  | **Drop** |  |
| **PHYS 201** | **College Physics I** | **3 hrs** |  |  | **Drop** |  |
| **PHYS 201** | **College Physics I** | **4 hrs** |  |  | **Drop** |  |
| **SFTY 171** | **Safety & First Aid** | **1 hr** |  |  | **Drop** |  |
| **Advisor approved Electives** | | **6 hrs** |  | **Electives** | | **11/12** |
|  |  |  |  |  | **Colonnade courses** |  |
|  |  |  |  |  | ***Foundations:* 18 hrs** |  |
|  |  |  |  | ENG 100 | Intro To College Writing | 3 |
|  |  |  |  | ENG 200 | Intro Literature | 3 |
|  |  |  |  | ENG 300 | Writing In the Disciplines | 3 |
|  |  |  |  | **Math 117 or higher** | **Trigonometry** | **3** |
|  |  |  |  | COMM 145 | Public Speaking Elective | 3 |
|  | |  |  | HIST 101/102 | World History I/II | 3 |
|  |  |  |  |  | ***Explorations:* 12 hrs** |  |
|  |  |  |  |  | Arts & Humanities | 3 |
|  |  |  |  |  | Social & Behavioral Studies | 3 |
|  | |  |  |  | Natural & Phys. Science w/ Lab | 6 |
|  |  |  |  |  | ***Connections:* 9 hrs** |  |
|  |  |  |  |  | Social & Cultural | 3 |
|  |  |  |  |  | Local to Global | 3 |
|  |  |  |  |  | Systems | 3 |
|  |  |  |  |  | TOTAL | 120 |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

**4. Rationale for the proposed program change:**

Changes to Construction Management Major

The Construction Management Program is accredited by ATMAE (Association of Technology Management and Applied Engineering) as well as ACCE (American Council on Construction Education). To reduce duplication of efforts as well as costs, the AMS Department is planning to keep the ATMAE accreditation, which affects 3 other programs in the department and drop the ACCE accreditation.

* Replace CM337 with AMS 217

To reduce redundancy of courses in the AMS Department, CM 337 will cease to be offered, and its content will be covered in AMS 217.

* Replace CM 346 with AMS 305

The students in in the Construction Management Program get some application of soil types and properties in other courses in the curriculum. It has been suggested by alumni that Building Codes (AMS 305) would be more beneficial to the graduates. Building Codes is a course that is already offered in the AMS Department.

* Add AMS 371

As construction companies move toward providing a better product for their customers, it has been recommended by the alumni of the CM program that AMS 371 (Quality Assurance) would be beneficial for graduates of the Construction Management Program. Quality Assurance is a course that is already offered in the AMS Department.

* Replace CM 426 with AMS 390

This is a reduction in course redundancy, as CM 426 includes much of the content in MGT 301. It has been determined that construction management students need Project Management (AMS 390) to help them manage and complete projects in industry. Project Management is a course that is already offered in the AMS Department.

* Replace CM 400 with AMS 394

Students get information about administration in CM 250 (Contract Documents). AMS 394 (Lean Systems) introduces lean topics, which are the enhancement of customer value and the elimination and reduction of all forms of waste, which many companies are looking for to remain competitive. Lean Systems is a course that is already offered in the AMS Department.

* Add UC 400 as option for AMS 398

UC 400 (Mentored Research Experience) is required of students who are completing a FUSE grant with the University. It is a reasonable substitute for AMS 398 (Internship I)

* Add AGMC 170/171 as option for CE 160/161

This will allow students different options for courses with labs in the area of basic surveying.

* Remove CM 463

The second course in estimating and bidding was redundant and it was suggested by alumni of the Construction Management Program that an introduction to this topic (CM 363: Construction Estimating and Bidding) would be beneficial enough for students in the construction field.

* Remove ACCT 201

The Construction Management Program currently is accredited by ATMAE (Association of Technology, Management and Applied Engineering) as well as ACCE (American Council on Construction Education). The second accounting course is a requirement of ACCE. The AMS Department deems dual accreditation to be unnecessary for the CM Program and is looking into dropping ACCE Accreditation.

* Remove MGT 311

The Construction Management Program currently is accredited by ATMAE (Association of Technology, Management and Applied Engineering) as well as ACCE (American Council on Construction Education). MGT 311 is a requirement of ACCE (American Council on Construction Education). The AMS Department deems dual accreditation to be unnecessary for the CM Program and is looking into dropping ACCE Accreditation.

* Add MKT 220 or MKT 325 or FIN161 or FIN 161C or RE 170C or BUS 100C or BUS 102C or BUS 110C or BUS 250C or BUS 252C or MKT 390 or ENT 312 as option for ACCT 200

This gives students more scheduling options for courses in the accounting and marketing areas and allows some customization of coursework depending upon the goals of the student.

* Add AMS 430 or BUS 210C or BUS 245C or BUS 248C as option for MGT 210

This gives students more scheduling options in the organizational management courses and allows for some customization of coursework depending upon the goals of the student

* Add MGT 200 or MGMT 200C or MGT 314 or MGT 333 or MGT 365 or BUS 226C as option for MGT 301

This gives students more scheduling options for courses in the business law area and allows some more scheduling options depending upon the goals of the student.

* Add ECO 150 or ECO 202 or ECON 203 or ECO 203 or ECON 375 or ECON 390 or BUS 160C as option for ECON 150 or ECON 202

This gives students more scheduling options for courses in the economics area and allows some more scheduling options depending upon the goals of the student.

* Remove AMS 175

The AMS Department no longer teaches this course.

* Remove CIS 141

The Construction Management Program currently is accredited by ATMAE (Association of Technology Management and Applied Engineering) as well as ACCE (American Council on Construction Education). CIS 141 is a requirement of ACCE. The AMS Department deems dual accreditation to be unnecessary for the CM Program and is looking into dropping ACCE Accreditation.

* Remove COMM 161

The Construction Management Program currently is accredited by ATMAE (Association of Technology Management and Applied Engineering) as well as ACCE (American Council on Construction Education). Business and Professional Speaking (COMM 161) is a requirement of ACCE. The AMS Department deems dual accreditation to be unnecessary for the CM Program and is looking into dropping ACCE Accreditation.

* Remove PHIL 320

The Construction Management Program currently is accredited by ATMAE (Association of Technology Management and Applied Engineering) as well as ACCE (American Council on Construction Education). An ethics course is a requirement of ACCE, but the topic of ethics is included in many courses throughout the curriculum. The AMS Department deems dual accreditation to be unnecessary for the CM Program and is looking into dropping ACCE Accreditation.

* Remove CHEM 106 and CHEM 116

Students' career goals will be addressed during advising as to which course they should take in this area.

* Remove PHYS 201

The Physics Department is no longer going to offer this course. Students’ career goals will be addressed during advising as to which course they should take in this area.

* Remove SFTY 171

This course is not a part of the new Colonnade Program. Most companies include safety and first aid training in their orientation of new employees.

* Remove advisor approved electives

Electives will be determined during advising to allow a more customized program of study for students based upon their career goals and not prescribed.

* Reduce number of hours in Construction Management Major from 76 to 69/70

Reduction reflects the removal of 9 hours of prescribed courses and the addition of 3 hours of a different course.

* Add colonnade requirements
* Add MATH 117 or higher as student’s colonnade mathematics course

Trigonometry has been determined to be the level of math that will allow students to successfully matriculate through the Construction Management Program.

**5. Effective Catalog Year:** 2015-2016

**6. Dates of prior committee approvals:**

Architectural and Manufacturing SciencesDepartment \_\_\_\_10-10-2014\_\_\_

OCSE Curriculum Committee \_\_\_\_\_\_11-06-2014\_\_\_\_

Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: September 4, 2014

**Ogden College of Science and Engineering**

**Department of Psychological Sciences**

**Proposal to Create a New Minor Program**

**(Action Item)**

Contact Person: Sharon Mutter, sharon.mutter@wku.edu, 5-4389

**1. Identification of program:**

* 1. Program title: Neuroscience
  2. Required hours in minor program: 21
  3. Special information:

This interdisciplinary minor draws on courses offered by the Department of Psychological Sciences, the Department of Biology, the Department of Chemistry, and the Department of Philosophy. The minor will be administered in the Department of Psychological Sciences.

* 1. Catalog description:

The minor in Neuroscience offers students the opportunity to study the intersection of brain and behavior in a manner that incorporates tools and perspectives from the psychological and biological sciences, and related disciplines. This minor will be an attractive option for students who are (1) planning to pursue advanced study in any of several fields related to neuroscience, including psychology, biology, medicine, counseling, or social work or (2) seeking relevant training for jobs related to the assessment, rehabilitation, and treatment of brain damage, brain diseases, and addiction.

The minor in Neuroscience requires a minimum of 21 credit hours of coursework. This includes 6 hours of required courses and an additional 15 credit hours in electives. Students must take PSYS 100 and BIOL 120/121 prior to beginning their coursework in the minor (some courses available for the minor may have additional prerequisites). Students who are majoring or minoring in Psychological Science or Biology may apply no more than six hours of major or minor course work in these areas to the minor in Neuroscience.

* 1. Classification of Instructional Program Code (CIP): 30.1001

**2. Rationale:**

* 1. Reason for developing the proposed minor program:

Some of the most important recent scientific discoveries have come from the study of neuroscience, a multidisciplinary field at the intersection of brain and behavior that incorporates tools and perspectives from molecular and cellular biology, genetics, physiology, pharmacology, chemistry and biochemistry, computer modeling, and behavioral and cognitive psychology. Data from the Society for Neuroscience indicate that the number of graduate and undergraduate programs in neuroscience has grown dramatically over the last twenty years. In response to the growing demand for training in this field, the Department of Psychological Sciences proposes to offer WKU students an interdisciplinary minor in neuroscience.

* 1. Projected enrollment in the proposed minor program:

We anticipate that enrollment in the program will initially be around 20 students per year, but will grow to around 50 students as the program matures.

* 1. Relationship of the proposed minor program to other programs now offered by the department: Neither the Department of Psychological Sciences nor the Department of Biology offers a major or minor in Neuroscience. However, the Biology department currently offers a minor in Biology and the Psychological Sciences department is proposing a new minor in Psychological Science. The proposed minor in Neuroscience includes courses that are prerequisites for the major and minor in each of these disciplines as well as one required course and three elective courses that could be used to satisfy the remaining requirements for these programs. Students majoring or minoring in Psychological Science or Biology will only be allowed to count six credit hours from their major or minor toward the minor in Neuroscience. This will still offer motivated WKU students the option of completing dual minors in Neuroscience and Psychological Science or Neuroscience and Biology.
  2. Relationship of the proposed minor program to other university programs: Other than the relationship of the proposed minor to programs in Psychological Science and Biology discussed in 2.3 above, there are no programs at WKU that are similar. The proposed minor will therefore complement many programs at WKU, especially those in psychological science, biology, psychology, sociology, and various health-related pre-professional programs.
  3. Similar minor programs offered elsewhere in Kentucky and in other states (including programs at benchmark institutions): Many universities now offer either a major or minor in Neuroscience. An undergraduate major or minor in Neuroscience or a related area is offered at the following KY universities: Morehead (pending approval by SACSCOC), NKU, and UK. Additionally, eight of our benchmark universities offer a major, a minor, or both in Neuroscience or a related field. There is broad overlap in the content the proposed program with the curriculum of these programs.
  4. Relationship of the proposed minor program to the university mission and objectives: The proposed minor program contributes to WKU’s mission by offering students an opportunity to complete coursework that focuses on the scientific study of the brain and behavior. The minor will have a significant impact on the intellectual level of undergraduate students by increasing their scientific literacy and helping them gain critical thinking skills. It will also help the university strengthen several key initiatives, such as developing interdisciplinary programs and training a diverse group of future scientists in important STEM disciplines.

**3. Learning outcomes of the proposed minor:**

Upon completion of the minor in Neuroscience, students will:

-Understand basic concepts in biology and psychology that serve as the foundation of the scientific study of brain, mind, and behavior

-Understand the organization of the nervous system and its relation to mind and behavior

-Appreciate the interdisciplinary nature of the field of neuroscience

-Use critical thinking skills to judge the scientific merit of original neuroscience research and its representation in the media

-Communicate effectively about neuroscience in written and oral form

**4. Curriculum:**

The minor in Neuroscience requires a minimum of 21 credit hours of coursework. This includes 6 hours of required courses and an additional 15 credit hours in electives. Students must earn a grade of C or better in all courses applied toward the minor. Students must take PSYS 100 and BIOL 120/121 prior to beginning their coursework in the minor. Students who are majoring in Biology or Psychological Science may apply no more than six hours of their major course work to the minor.

The following courses are required (6 hours):

PSYS 360 Behavioral Neuroscience (3 hours)

BIOL 335 Neurobiology (3 hours)

At least 15 credit hours may be selected from the following courses. Students must choose at least 1 course each from Biology and Psychology. Note that some of these courses have prerequisites beyond those required by the minor.

PSYS 331 Psychology of Learning (3 hours)

PSYS 333 Cognitive Psychology (3 hours)

PSYS 363 Sensory and Perceptual Systems (3 hours)

PSYS 462 Neuroscience of Learning and Memory (3 hours)

PSYS 465 Psychopharmacology (3 hours)

BIOL 319 Introduction to Molecular and Cell Biology

BIOL 327 Genetics (3 hours)

BIOL 334 Animal Behavior (3 hours)

BIOL/CHEM 446 Biochemistry (3 hours)

PHIL 332 Philosophy of Mind: Minds and Machines (3)

Though not required for the minor, students are strongly encouraged to obtain research experience in topics related to neuroscience. There are several laboratories in the Psychological Science, Biology, and Chemistry departments that offer research opportunities to undergraduate students. For more information on research laboratories and opportunities, students should review the websites of faculty in these departments.

**5. Budget implications:** The minor will be offered using courses that are currently taught by faculty in Ogden College of Science and Engineering and Potter College of Arts and Letters.

**6. Proposed term for implementation:** Fall 2015

**7. Dates of prior committee approvals:**

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| --- | --- |
| Department of Psychological Sciences | **9/5/2014** |
| Ogden College Curriculum Committee | **11/6/2014** |
| Undergraduate Curriculum Committee |  |
| University Senate |  |
| Board of Regents |  |