**Ogden College of Science and Engineering**

**Office of the Dean**

**745-4449**

**REPORT TO THE UNIVERSITY CURRICULUM COMMITTEE**

Date: November 25, 2013

The Ogden College of Science and Engineering submits the following action items for consideration at the December 2013, UCC meeting:

1. New Business

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| **Type of item** | **Description of Item & Contact Information** |
| Action | **Revise a Program**  Ref. # 734, Middle School Science  Contact: Les Pesterfield, [lester.pesterfield@wku.edu](mailto:lester.pesterfield@wku.edu), x53603 |

Proposal Date: 04 September 2013

**Ogden College of Science and Engineering**

**Office of the Dean**

**Proposal to Revise A Program**

**(Action Item)**

Contact Person: Les Pesterfield, [lester.pesterfield@wku.edu](mailto:lester.pesterfield@wku.edu), 745-3603

**1. Identification of program:**

* 1. Current program reference number: 734
  2. Current program title: Middle School Science (“MSS”)
  3. Credit hours: 46

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

# 2.1 Increase the number of hours in the major from 46 to 47

# 2.2 Clarify credit-hour designations for BIOL 303 and CHEM 470

# 2.3 Clarify number of required restricted electives

**3. Detailed program descriptions:**

**Current program Proposed program**

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| General:  1. 23 hours of introductory science core courses are required.  2. A science research methods course, SMED 360, is required.  3. **20** **hours** of upper levelscience courses are required including a required course in each of the five disciplines and **one from a list of restricted electives.**  4. Completion of MATH 117 or 136or 142 as a support course is required.  5. All courses must be completed with a grade of C or better. All science courses must be completed with an average GPA of 2.75 or better.  6. Students must also complete the SMED major. | General:  1. 23 hours of introductory science core courses are required.  2. A science research methods course, SMED 360, is required.  3. **21 hours** of upper levelscience courses are required including a required course in each of the five disciplines and **two from a list of restricted electives.**  4. Completion of MATH 117 or 136 or 142 as a support course is required.  5. All courses must be completed with a grade of C or better. All science courses must be completed with an average GPA of 2.75 or better.  6. Students must also complete the SMED major. |

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| Required introductory science courses (23hrs)  ASTR 104 Astronomy of the  Solar System (3)  or ASTR 106 Astronomy of  Stellar Systems (3)  BIOL 120/121 Biological Concepts:  Cells, Metabolism, and Genetics (4)  BIOL 122/123 Biological Concepts:  Evolution, Diversity & Ecology (4)  CHEM 105/106 Fund. of Gen. Chemistry (4)  or CHEM 120/121 College Chemistry I (5)  GEOL 111/113 The Earth (4)  OR GEOL 112/114 Earth History (4)  PHYS 201 College Physics I (4)  or PHYS 231/232 College Physics  and Biophysics I (4) | Required introductory science courses (23 hours)  ASTR 104 Astronomy of the  Solar System (3)  or ASTR 106 Astronomy of  Stellar Systems (3)  BIOL 120/121 Biological Concepts:  Cells, Metabolism, and Genetics (4)  BIOL 122/123 Biological Concepts:  Evolution, Diversity & Ecology (4)  CHEM 105/106 Fund. of Gen. Chemistry (4)  or CHEM 120/121 College Chemistry I (5)  GEOL 111/113 The Earth (4)  OR GEOL 112/114 Earth History (4)  PHYS 201 College Physics I (4)  or PHYS 231/232 College Physics  and Biophysics I (4) |
| Science research course:  SMED 360 Research Methods for  Mathematics and Science Teachers (3) | Science research course:  SMED 360 Research Methods for  Mathematics and Science Teachers (3) |
| Upper level science courses (**20 hours):**  **All of following courses (17 hours):**  ASTR 405 Astronomy for Teachers (3)  **BIOL 303** **Life Sciences for Middle Grades Teachers (4)**  **CHEM 470** **Chemistry/Middle School (4)**  GEOL 305 Earth Systems Science for Teachers (3)  PHYS 410 Physics for Teachers (3)  **One restricted elective (min. 3 hours) from:**  BIOL 319/322 Molecular and Cell Biology (4)  BIOL 325 Insect Biodiversity (3)  BIOL 326 Ornithology (3)  BIOL 327Genetics (4)  BIOL 334 Animal Behavior (3)  BIOL 348 Plant Taxonomy (3)  GEOG 471 Natural Resource Mgt. (3)  GEOL 308 Structural Geology (4)  GEOL 310 Global Hydrology (3)  GEOL 311 Oceanography (3)  GEOL 325 Intro Minerals and Rocks (3)  GEOL 380 Intro Field Techniques (3)  GEOL 405 Paleontology (4)  SMED 300 Middle Grade Science Skills (3)  SMED 400 Applying Middle Grade Science Across Disciplines (3) | Upper level science courses (**21 hours):**  **All of following courses (15 hours):**  ASTR 405 Astronomy for Teachers (3)  **BIOL 303** **Life Sciences for Middle Grades Teachers (3)**  **CHEM 470** **Chemistry/Middle School (3)**  GEOL 305 Earth Systems Science for Teachers (3)  PHYS 410 Physics for Teachers (3)  **Two restricted elective (min. 6 hours) from:**  BIOL 319/322 Molecular and Cell Biology (4)  BIOL 325 Insect Biodiversity (3)  BIOL 326 Ornithology (3)  BIOL 327Genetics (4)  BIOL 334 Animal Behavior (3)  BIOL 348 Plant Taxonomy (3)  GEOG 471 Natural Resource Mgt. (3)  GEOL 308 Structural Geology (4)  GEOL 310 Global Hydrology (3)  GEOL 311 Oceanography (3)  GEOL 325 Intro Minerals and Rocks (3)  GEOL 380 Intro Field Techniques (3)  GEOL 405 Paleontology (4)  SMED 300 Middle Grade Science Skills (3)  SMED 400 Applying Middle Grade Science Across Disciplines (3) |
| Support course  MATH 117 Trigonometry (3) or  MATH 136 Calculus I (4) or  MATH 142 Calculus with Applications for Life Sciences (5) | Support course  MATH 117 Trigonometry (3) or  MATH 136 Calculus I (4) or  MATH 142 Calculus with Applications for Life Sciences (5) |

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

The Middle School Science Education major (reference number 734) requires a total of 46 hours of coursework. The University requires that at least half the hours in the major be at the 300-level or above. In the current program, both CHEM 470 Chemistry for Middle School Teachers and BIOL 303 Life Sciences for Middle Grades Teachers are designated as 4-credit-hour courses. However, those courses are offered as 3-credit-hour courses. As a result, students are 2 credit hours short of satisfying the University requirement that at least half the hours in the major be at the 300-level or above. Therefore, students must take an additional course at the 300-level or above to satisfy the requirement.

The proposed changes reflect a correction to the number of credit hours designated for CHEM 470 and BIOL 303 and a clarification in the number of restricted upper division courses required to complete the major.

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

# Fall semester 2014

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

SKyTeach Faculty September 4, 2013

Ogden Dean’s Office September 23, 2013

Ogden College Curriculum Committee October 10, 2013

Professional Education Council \_November 13, 2013

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

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