

Ogden College of Science and Engineering  
Western Kentucky University  
Office of the Dean  
745-6371

**REPORT TO THE GRADUATE COUNCIL CURRICULUM COMMITTEE**

DATE: April 12, 2017

FROM: Ogden College of Science and Engineering

Ogden College of Science and Engineering Committee Members: Dr. Fred DeGraves, Dr. John Khouryieh, Dr. Michael Smith, Dr. Eric Conte, Dr. Mustafa Atici, Dr. Shane Palmquist, Dr. David Keeling, Dr. Dominic Lanphier, Dr. Sanju Gupta, Dr. Sharon Mutter

Chair: Dr. Cathleen Webb

The Ogden College of Science and Engineering submits the following item for consideration at the March Meeting.

Action	Proposal to Revise a Course AGRO 409G, Weed Science Contact person: Todd Willian, todd.willian@wku.edu, 5-5969
Action	Proposal to Revise a Course AGRO 410G, Weed Science Laboratory Contact person: Todd Willian, todd.willian@wku.edu, 5-5969
Action	Proposal to Revise a Program Ref. 052, Master of Science in Agriculture Contact person: Fred DeGraves, fred.degraves@wku.edu, 5-5960
Action	Proposal to Create a New Program Graduate Certificate in Biology Contact person: Michael Smith, michael.smith@wku.edu, 5-2405
Action	Proposal to Revise a Program Ref. 059, Chemistry, Master of Science Contact person: Eric Conte, eric.conte@wku.edu, 5-6019

**MINUTES – OCSE Graduate Curriculum Committee**

**March 8, 2017**

**Members Present:** Dr. Fred DeGraves, Dr. John Khouryieh, Dr. Mustafa Atici, Dr. Shane Palmquist, Dr. David Keeling, Dr. Sanju Gupta, Dr. Sharon Mutter

Dr. Cathleen Webb, Chair

Guests: Toni Dye, Assistant Director of ISO  
Nick Haught, Assistant Director, Pathway Relations – WKU Pathways

**OLD BUSINESS**

Keeling/Smith made a motion to approve the minutes from December and February. Approved unanimously.

**NEW BUSINESS**

**Consent Item**

Keeling/Smith made a motion to bundle and approve the consent items. Approved unanimously.

**Action Agenda**

Keeling/Khouryieh made a motion to bundle and approve the action items (listed below).  
Approved unanimously.

Proposal to Revise a Course AGRO 452G, Soil Microbiology  
Proposal to Revise a Course AGRO 454G, Soil Management and Conservation

Keeling/Atici made a motion to bundle and approve the action items (listed below). Approved unanimously.

Proposal to Revise a Program Ref: 072, Geoscience

Keeling/Khouryieh made a motion to bundle and approve the action items (listed below).  
Approved unanimously.

Proposal to Revise a Course GEOS 523, Urban GIS Applications  
Proposal to Revise a Course GEOS 534, Historic Preservation Planning  
Proposal to Revise a Course 580, Seminar Urban Geography

Keeling/Palmquist made a motion to bundle and approve the action items (listed below).  
Approved unanimously.

Proposal to Create a New Course CS 535, Cloud Computing

**Revise a Course  
(Action)**

Date: February 1, 2017

College, Department: Ogden College of Science and Engineering, Department of Agriculture

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

**1. Identification of course**

- 1.1 Course prefix (subject area) and number: AGRO 409G
- 1.2 Course title: Weed Science

**2. Proposed change(s):**

- 2.1 course number: AGRO 509
- 2.2 course title:
- 2.3 credit hours:
- 2.4 grade type:
- 2.5 prerequisites:
- 2.6 corequisites:
- 2.7 course description: Identification of prominent weed species; relationship of weeds to crop production problems; control measures, both physical and chemical, are presented.
- 2.8 other:

**3. Rationale for revision of course: AGRO 409G is one of several 400G-level courses the Department of Agriculture proposes to change to 500-level status. Since course content is taught at the 500-level, reflection of that level in the course number is warranted.**

**4. Term of implementation: Fall 2017**

**5. Dates of committee approvals:**

Department of Agriculture

February 2, 2017

OCSE Graduate Curriculum Committee

Professional Education Council (if applicable)

Graduate Council Curriculum Committee

Graduate Council

University Senate

*\*Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

**Revise a Course  
(Action)**

Date: February 1, 2017

College, Department: Ogden College of Science and Engineering, Department of Agriculture

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

**1. Identification of course**

- 1.1 Course prefix (subject area) and number: AGRO 410G
- 1.2 Course title: Weed Science Laboratory

**2. Proposed change(s):**

- 2.1 course number: AGRO 510
- 2.2 course title:
- 2.3 credit hours:
- 2.4 grade type:
- 2.5 prerequisites:
- 2.6 corequisites:
- 2.7 course description: A laboratory course correlated with AGRO 509.
- 2.8 other:

**3. Rationale for revision of course: AGRO 410G is one of several 400G-level courses the Department of Agriculture proposes to change to 500-level status. Since course content is taught at the 500-level, reflection of that level in the course number is warranted.**

**4. Term of implementation: Fall 2017**

**5. Dates of committee approvals:**

Department of Agriculture

OCSE Graduate Curriculum Committee

Professional Education Council (if applicable)

Graduate Council Curriculum Committee

Graduate Council

University Senate

February 2, 2017

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*\*Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

**Revise a Program  
(Action)**

Date: 3/30/2017

College: OCSE

Department: Agriculture

Contact Person: Fred DeGraves, fred.degraves@wku.edu, 614-477-1430

**1. Identification of program:**

1.1 Reference number: 052

1.2 Program title: Master of Science in Agriculture

**2. Proposed change(s):**

2.1  title:

2.2  admission criteria:

2.3  curriculum:

2.4  other:

**3. Detailed program description:**

Existing Program	Revised Program
Specific admission criteria have not been established for the Agriculture graduate program.	Establish a Graduate Program Application Form that specifies admission criteria for the Agriculture graduate program (attached).

**4. Rationale:** The attached departmental Graduate Program Application Form will provide applicants information that is required for acceptance into the Agriculture graduate program. In addition, the completed application form will provide graduate faculty information needed to make informed admissions decisions. It is anticipated that the new application form will accelerate the process of matching qualified applicants with suitable mentors in the Department of Agriculture.

**5. Proposed term for implementation:** Spring 2018

**6. Dates of committee approvals:**

Department	March 30, 2017
College Curriculum Committee	_____
Professional Education Council (if applicable)	_____
Graduate Council Curriculum Committee	_____
Graduate Council	_____
University Senate	_____

**Revise a Program  
(Action)**

Date: 3/28/17

College: Ogden College of Science and Engineering

Department: Department of Biology

Contact Person: Michael Smith, [michael.smith1@wku.edu](mailto:michael.smith1@wku.edu), 270-745-2405

**1. Identification of program:**

1.1 Reference number: 0442

1.2 Program title: Biology Education for Teacher Leaders, Master of Arts in Education

**2. Proposed change(s):**

2.1  title:

2.2  admission criteria:

2.3  curriculum:

2.4  other:

**3. Detailed program description:**

Existing Program	Revised Program												
<p><b>Program Requirements (30-34 hours)</b></p> <p>During the first course in the program, TCHL 500, students will complete an assessment process that will be used in determining which TCHL core courses they must take (see Important Note below). All students must either complete TCHL 540, TCHL 544, TCHL 548, TCHL 550, TCHL 554, and TCHL 558 or pass proficiency evaluations for these courses. TCHL 500, TCHL 530, and TCHL 560 are required for all students, and there are no proficiency evaluations that may be substituted for these courses. An Action Research Project for Teacher Leaders focusing on a classroom, school, or district issue is the capstone for the completion of the program.</p> <p><b>Professional Education Core:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Title</th> <th style="text-align: left;">Hours</th> </tr> </thead> <tbody> <tr> <td>TCHL 500</td> <td>Foundations of Teacher Leadership<sup>1</sup></td> <td>3</td> </tr> </tbody> </table>	Code	Title	Hours	TCHL 500	Foundations of Teacher Leadership <sup>1</sup>	3	<p><b>Program Requirements (30-34 hours)</b></p> <p>During the first course in the program, TCHL 500, students will complete an assessment process that will be used in determining which TCHL core courses they must take (see Important Note below). All students must either complete TCHL 545540, TCHL 544, TCHL 548, <del>TCHL 550, TCHL 554,</del> and TCHL 5558 or pass proficiency evaluations for these courses. TCHL 500, TCHL 530, TCHL 559 and TCHL 560 are required for all students, and there are no proficiency evaluations that may be substituted for these courses. An Action Research Project for Teacher Leaders focusing on a classroom, school, or district issue is the capstone for the completion of the program.</p> <p><b>Professional Education Core:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Title</th> <th style="text-align: left;">Hours</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Code	Title	Hours			
Code	Title	Hours											
TCHL 500	Foundations of Teacher Leadership <sup>1</sup>	3											
Code	Title	Hours											

TCHL 530	Curriculum Development	3	TCHL 500	Foundations of Teacher Leadership <sup>1</sup>	3	
TCHL 540	Classroom Instruction: Instructional Strategies	1	TCHL 530	Curriculum Development	3	
TCHL 544	Equitable School and Community Partnerships	1	<del>TCHL 540</del>	<del>Classroom Instruction: Instructional Strategies</del>	<del>1</del>	
TCHL 548	Classroom Instruction: Managing the Learning Environment	1	<del>TCHL 544</del>	<del>Community Partnerships</del>	<del>1</del>	
TCHL 550	Student Assessment I: Fundamentals of Student Assessment	1	<del>TCHL 548</del>	<del>Classroom Instruction: Managing the Learning Environment</del>	<del>1</del>	
TCHL 554	Student Assessment II: Standardized Testing	1	TCHL 545	Classroom Instructional Strategies and Management	3	
TCHL 558	Student Assessment III: Classroom Tests and Instruments	2	<del>TCHL 550</del>	<del>Student Assessment I: Fundamentals of Student Assessment</del>	<del>1</del>	
TCHL 560	Action Research Capstone for Teacher Leaders	3	<del>TCHL 554</del>	<del>Student Assessment II: Standardized Testing</del>	<del>1</del>	
<b>Content Major:</b>			<del>TCHL 558</del>	<del>Student Assessment III: Classroom Tests and Instruments</del>	<del>2</del>	
Select 18 hours of advisor-approved BIOL courses numbered 400G or higher that would count for the M.S. in Biology program			18	TCHL 555	School and Classroom Assessment	3
<b>Total Hours</b>			<b>30-34</b>	TCHL 559	Action Research Design	1
<sup>1</sup> While enrolled in TCHL 500, master's candidates will use several documents, including their KTIP assessments or in-kind examples, dispositions self-surveys, referrals from school personnel, and their respective School Improvement Plan, to develop with their respective program advisors individualized programs of study of 30-34 hours related to Kentucky Teacher Standards and professional goals. Each student's program of study will include some or all of the TCHL courses, at least one content course specific to their initial teaching certification areas, plus				TCHL 560	Action Research Capstone for Teacher Leaders	3
<b>Content Major:</b>				<b>Content Major:</b>		
Select 18 hours of advisor-approved BIOL courses numbered 400G or higher that would count for the M.S. in Biology program			18	Select 18 hours of advisor-approved BIOL courses numbered 400G or higher that would count for the M.S. in Biology program		
<b>Total Hours</b>			<b>30-34</b>	<b>Total Hours</b>		
<sup>1</sup> While enrolled in TCHL 500, master's candidates will use several documents, including their KTIP assessments or in-kind examples, dispositions self-surveys, referrals from school personnel, and				<sup>1</sup> While enrolled in TCHL 500, master's candidates will use several documents, including their KTIP assessments or in-kind examples, dispositions self-surveys, referrals from school personnel, and		

<p>additional education-related or content courses.</p>	<p>their respective School Improvement Plan, to develop with their respective program advisors individualized programs of study of 30-34 hours related to Kentucky Teacher Standards and professional goals. Each student's program of study will include some or all of the TCHL courses, at least one content course specific to their initial teaching certification areas, plus additional education-related or content courses.</p>
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4. **Rationale:** The curriculum contract for the Master of Arts in Education for Teacher Leaders-Biology Major/Secondary Education Minor, has been changed. The Teacher Leadership program is no longer offering Classroom Instruction as three separate 1 credit hour courses (TCHL 540, 544, and 548) but as one 3 credit hour course (TCHL 545). Similarly, three separate 1 credit hour Student Assessment courses are no longer offered (TCHL 550, 554, 558) but a single three credit hour course is offered (TCHL 555). In addition, TCHL 559 (Action Research Design) is now required in all MAE programs. This revision brings the Biology MAE in alignment with the other MAE programs.

5. **Proposed term for implementation:** Fall 2017

6. **Dates of committee approvals:**

Department	<u>04/07/2017</u>
College Curriculum Committee	_____
Professional Education Council (if applicable)	_____
Graduate Council Curriculum Committee	_____
Graduate Council	_____
University Senate	_____



## **Graduate Certificate Program in Biology - Create New (Action)**

Date: 2/20/2017

College: Ogden College of Science and Engineering

Department: Biology

Contact Person: Michael Smith, [michael.smith1@wku.edu](mailto:michael.smith1@wku.edu), 270-745-2405

### **1. Identification of program:**

- 1.1 Program title: Graduate Certificate in Biology
- 1.2 Required hours: 15
- 1.3 Program Description: This program is designed for individuals pursuing a career in biology who need up to 15 hours of graduate biology courses for professional training or accreditation. This certificate will equip its graduates with supplemental and enhanced knowledge and skills in biology to broaden their career opportunities.
- 1.4 Classification of Instructional Program Code (CIP): 26

**2. Learning outcomes of the proposed certificate program:** The objective of the certificate program is to provide students with in depth understanding of specialty fields in biology with enhanced credentials to enable them to gain employment or further training in biology. Specifically, students completing this certificate program should be able to clearly explain scientific methods used in particular sub-disciplines in the biological sciences, discuss advanced biological principles in scientific and applied frameworks, and how biology fits into a social context.

### **3. Rationale:**

- 3.1 Reason for developing the proposed certificate program: In Kentucky and elsewhere, some secondary education teachers require at least 15 h of graduate credit in their subject in order to renew their certification or are allowed to teach that subject area, but a master's degree is not required. In addition, this program should provide training for students desiring jobs in rapidly expanding job markets such as biotechnology. This program will be a good recruitment tool for students needing additional graduate credits, but are not yet ready for master's level graduate degree program. Students who have completed the certificate can apply the courses taken to a Master of Science degree in Biology if they are admitted into that program at a later date.
- 3.2 Relationship of the proposed certificate program to other programs now offered by the department: Courses available include those for other WKU Biology graduate programs. Since 30 h are required for both the Master of Science and Master of Arts in Education degrees in Biology at WKU, the certificate represents the half-way point for completion of a master's degree. The Biology Education for Teacher Leaders, Master of Arts in Education program requires 18 hours of coursework in Biology.
- 3.3 Relationship of the proposed certificate program to certificate programs offered in other departments: There are no other biology-specific certificate programs, although WKU does have some health-related certificate programs (e.g., Aging Studies, Emergency Nurse Practitioner, Family Nurse Practitioner, Worksite Health).
- 3.4 Projected enrollment in the proposed certificate program: 5/year
- 3.5 Similar certificate programs offered elsewhere in Kentucky and in other states (including programs at benchmark institutions): Two of WKU's benchmark institutions have similar certificate programs (Ball State University and Florida Atlantic University). While the University of Kentucky has much more narrow graduate certificate programs that are biologically-relevant (e.g., Anatomical Sciences, Biostatistics, Stream and Watershed Science, Physiology Teaching), no other Kentucky university offers a general graduate certificate in Biology.
- 3.6 Relationship of the proposed certificate program to the university mission and objectives: The certificate program will enhance student opportunities for employment

in biology allowing them to be productive, engaged, and socially responsible citizen-leaders.

- 4. **Admission Criteria:** Admission into the WKU Graduate School, the minimum requirements of which is an earned bachelor’s degree (or equivalent) and a 2.75 GPA (out of a 4.0 scale).
- 5. **Curriculum:** The certificate requires 15 semester hours of graduate biology credit (BIOL 400G or higher). The core curriculum for this certificate program must include BIOL 500 Introduction to Graduate Studies and Research in Biology, one of the core Biodiversity courses (BIOL 532 Behavioral Ecology, BIOL 534 Environmental Science Concepts, BIOL 545 Animal Communication), and one of the core Biotechnology courses (BIOL 411G Cell Biology, BIOL 446G Biochemistry, BIOL 495G Molecular Genetics). The remaining 6 credit hours can be selected from these core courses or any other Biology graduate course except for BIOL 516 Investigations/Biology, BIOL 598 Graduate Seminar, and BIOL 599 Thesis Research/Writing. BIOL 500 (Introduction to Graduate Studies and Research in Biology) introduces graduate students to research techniques and experimental design, as well as studying current biological literature and methods of scientific writing.
- 6. **Budget implications:** The certificate program will not put any additional costs or burdens upon the Biology Department or the university, since the courses being offered are already offered as part of the Master of Science degree in Biology.
- 7. **Term of implementation:** Fall 2017
- 8. **Dates of committee approvals:**

Department	<u>3/10/2017</u>
College Curriculum Committee	<u></u>
Graduate Council Curriculum Committee	<u></u>
Office of Academic Affairs (if ≥18 hour program)	<u>NA</u>
Professional Education Council (if applicable)	<u>NA</u>
Graduate Council	<u></u>
University Senate	<u></u>
Board of Regents	<u></u>

## Revise a Program (Action)

Date: 3/31/2017

College: Ogden

Department: Chemistry

Contact Person: Eric Conte, [eric.conte@wku.edu](mailto:eric.conte@wku.edu), 745-6019

**1. Identification of program:**

- 1.1 Reference number: 059
- 1.2 Program title: Chemistry, Master of Science

**2. Proposed change(s):**

- 2.1  title:
- 2.2  admission criteria:
- 2.3  curriculum:
- 2.4  other:

**3. Detailed program description:**

Existing Program	Revised Program
<p>In addition to Graduate School requirements, candidates for admission to this program must submit evidence of satisfactory completion of undergraduate curricula in chemistry.</p>	<p>In addition to Graduate School requirements, the Department of Chemistry desires the following:</p> <ul style="list-style-type: none"> <li>• Bachelor's degree in chemistry or equivalent including supporting courses in mathematics <sup>1</sup></li> <li>• GPA in Chemistry courses <math>\geq 3.0</math> (on a 4.0 scale)</li> <li>• GRE general scores (Q+V) and Analytical Writing <sup>2,3</sup></li> </ul> <p>Please refer to the admission section of this catalog for Graduate School admission requirements.</p> <p><sup>1</sup> Exceptions to possessing a chemistry degree may be made for students with undergraduate degrees in chemistry-related areas (e.g. chemical engineering, pharmacy, pharmaceutical science, forensic chemistry). However, additional courses may be required and will be determined by the graduate program coordinator and/or the student's thesis committee.</p> <p><sup>2</sup> Scores from MCAT, PCAT, or DAT may be substituted for GRE scores if they reflect percentile ranks similar to those of the desired GRE scores.</p>

	<p><sup>3</sup>Although there are no formal minimum GRE scores, admission is competitive. The average GRE scores of recently admitted students are approximately [145](V) and [150](Q). Applications should be received by March 15th for priority consideration.</p>
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**4. Rationale:**

Currently the WKU Graduate Catalog does not include a GRE requirement for Chemistry MS program. Also we wish to provide more details of our desires for applicants of our graduate program.

**5. Proposed term for implementation: Spring 2018**

**6. Dates of committee approvals:**

Department	<u>3/31/2017</u>
College Curriculum Committee	_____
Professional Education Council (if applicable)	_____
Graduate Council Curriculum Committee	_____
Graduate Council	_____
University Senate	_____