

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

REPORT TO THE GRADUATE COUNCIL COMMITTEE

DATE: January 23, 2015

FROM: Ogden College of Science and Engineering

Ogden College of Science and Engineering Committee Members: Dr. Ferhan Atici, Dr. Rajalingam Dakshinamurthy, Dr. Fred DeGraves, Dr. Sanju Gupta, Dr. David Keeling, Dr. John Khouryieh, Dr. Sharon Mutter, Dr. Shane Palmquist, Dr. Michael Smith, Dr. Zhonghang Xia

Chair: Dr. Cathleen Webb

The Ogden College of Science and Engineering submits the following items for consideration at the February meeting:

Action	Proposal to Revise a Course GEOS 502, Geoscience Field Research Contact Person: David Keeling, david.keeling@wku.edu, 5-4555
Action	Proposal to Revise a Program 072, Master of Science in Geoscience Contact Person: David Keeling, david.keeling@wku.edu, 5-4555

MINUTES – OCSE Graduate Curriculum Committee

November 21, 2014

Members Present: Dr. David Keeling, Dr. Sanju Gupta, Dr. Sharon Mutter,
Dr. Zhonghang Xia, Dr. Shane Palmquist, Dr. Fred DeGraves, Dr. Ferhan Atici

Dr. Cathleen Webb, Chair

This meeting was held via email

OLD BUSINESS

Keeling/Mutter moved for approval of minutes from October 2014. Motion approved.

NEW BUSINESS

Consent Agenda

Keeling/Mutter moved for approval to bundle and approve the consent items. Motion approved.

Action Agenda

Keeling/Mutter moved for approval of Math 049. Motion approved.

**Proposal to Revise a Course
(Action)**

Date: November 14, 2014

Ogden College, Department of Geography and Geology

Contact Person: David Keeling, david.keeling@wku.edu, 5-4555

1. Identification of course

- 1.1 Course prefix (subject area) and number: GEOS 502
- 1.2 Course title: Geoscience Field Research

2. Proposed change(s):

- 2.1 Course number: No change
- 2.2 Course title: Geoscience Research Methods
- 2.3 Credit hours: Variable 1-4 hours
- 2.4 Grade type: Standard letter grading
- 2.5 Prerequisites: GEOS 500
- 2.6 Corequisites: None
- 2.7 Course description: An introduction to research techniques and methodology appropriate to the thesis project.
- 2.8 Other: N/A

3. Rationale for revision of course: Many thesis projects do not require intensive field-based research experience, but each project does require appropriate techniques and methods to support specific thesis research. This course is revised to allow for variable credit (1-4 hours) in research methods, with 1 hour required in the Spring semester for first-year students to ensure that the thesis proposal contains the appropriate techniques and methods. Additional credit of up to three hours may be earned during the second year of the program.

4. Term of implementation: Fall 2015

5. Dates of committee approvals:

Department of Geography and Geology

Ogden College Graduate Curriculum Committee

Graduate Council

University Senate

11/14/2014

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

COURSE INVENTORY FORM

☒ Course Revisions

Note: If course revision affects subject area, course number, or course title, complete both #1 and #2, and any other proposed changes.

If course revision does not affect subject area, course number, or course title, complete #1, and any proposed changes ONLY.

1. Identification of Existing Course Existing Subject Area GEOS
 Existing Course Number 502
 Existing Course Title GEOSCIENCE FIELD RESEARCH
2. Identification of Proposed Course Proposed Subject Area
 Proposed Course Number
 Proposed Official Course Title GEOSCIENCE RESEARCH METHODS
 Proposed Abbreviated Title RESEARCH METHODS
3. First effective term for course revision (e.g. Spring 2012=201210, Fall 2012=201230) 201530
4. Offering Unit (See Table of Code Values.) College SC Department GEO

Course Revisions: Check box at left and complete only those items that are being changed. Leave other items blank.

5. Credit Hours Fixed Credit Hours: Variable Credit Hours 1.00 TO 4.00
6. Repeat Limit (See instructions.) 3 Total Maximum Hours (See instructions.) 4.00
7. Grading (Check all that apply.) Standard Letter Grading Pass/Fail Only No Grade
 In Progress – IP (course is intended to span more than one term)
8. Schedule Type (See Table of Schedule Types.)
9. Corequisites (courses required to be taken concurrently with this course)
 Subject Area Course Number Subject Area Course Number Subject Area Course Number
10. Equivalent Courses (Include South Campus [C suffix] courses and other equivalent courses.)
 Subject Area Course Number Subject Area Course Number Subject Area Course Number
11. Prerequisites (See instructions.)
 Subject Area Course Number Subject Area Course Number Subject Area Course Number
 GEOS 500
 Other
12. Course Attribute Honors Course Developmental Course
13. Course Restrictions Include/ Exclude College College Major Major Classification
14. Course Description (Indicate exactly as it should appear in the University Catalog. Include pertinent special information, e.g., course fees, pass/fail grading, field trips, transportation requirements, etc.)
 : An introduction to research techniques and methodology appropriate to the thesis project

Office of the Registrar Use

UCC _____	University Senate _____	CIP _____	Course Desc _____
Graduate Council _____	Provost _____	Banner Data _____	Evaluate _____

Course Inventory Instructions and Code Values

Course Revisions

(Do not forward this instruction sheet with the Course Inventory Form)

General Instructions

The University Course Inventory is updated and maintained by the Office of the Registrar. The purpose of this form is to provide data necessary for revising existing courses in the course inventory. The form will be prepared by the originating department and accompany course materials submitted to the Undergraduate Curriculum Committee (UCC) or Graduate Council for action. Following approval by the UCC or Graduate Council, University Senate, and Provost, course information will be entered into the Banner student information system.

Note: This form is not to be used to indicate approval of courses for General Education.

Question 4 Table of Code Values

AR Arts & Letters

99AR	Interdisciplinary/Undeclared
ART	Art
COMM	Communication
ENG	English
FLKA	Folk Studies and Anthropology
GOVT	Political Science
HIST	History
INT	International Programs
JOUR	School of Journalism and Broadcasting
MLNG	Modern Languages
MUS	Music
PHIL	Philosophy and Religion
SOCL	Sociology
THEA	Theatre and Dance

BU Gordon Ford College of Business

99BU	Interdisciplinary/Undeclared
ACCT	Accounting
BA	Business Administration
CIS	Computer Information Systems
ECON	Economics
FIN	Finance
MGT	Management
MKT	Marketing and Sales

ED Education & Behavioral Sciences

99ED	Interdisciplinary/Undeclared
CNSA	Counseling and Student Affairs
EALR	Educational Adm., Leadership and Research
MIL	Military Science
PSY	Psychology
TCH	School of Teacher Education

EX Exploratory Studies

ACAD	Academic Advising and Retention
ND	Non Degree

HH Health & Human Services

99HH	Interdisciplinary/Undeclared
ALHL	Allied Health
CD	Communication Sciences and Disorders
CFS	Family and Consumer Sciences
NURS	School of Nursing
PHY	Kinesiology, Recreation, and Sport
PUBH	Public Health
SWRK	Social Work

Question 4 (Table of Code Values continued)

IS University College

99IS	Dean's Office
AS	Academic Support
DCS	Diversity and Community Studies
GS	Liberal Arts and Sciences
HON	Honors Academy
PRST	School of Professional Studies

SC Science & Engineering

99SC	Interdisciplinary/Undeclared
AGRI	Agriculture
AMS	Architectural and Manufacturing Sciences
BIOL	Biology
CHEM	Chemistry
CS	Computer Science
ENGR	Engineering
GEO	Geography and Geology
MATH	Mathematics
PHYA	Physics and Astronomy

Question 6 The **Repeat Limit** should reflect the number of times a student can enroll for degree credit **beyond** the first enrollment. Enter zero (0) unless the course can be taken multiple times for credit (e.g., special topics, internships). **Total Maximum Hours** is the number of hours for which a student may receive degree credit for this course.

Question 8 Table of Schedule Types

A	Applied Learning —Focus on process and/or technique
B	Lab —Experimental study in a setting equipped for testing and analysis
C	Lecture/Lab —Combination of formal presentation and experimental study
D	Applied Technique —Private or small group instruction
E	Ensemble Performance —Group Performance
H	Clinical —Development of professional skills, typically in a medical setting
I	Independent Study —Individualized instruction between the student & faculty member
K	Workshop —Seminar emphasizing practical applications of a subject
L	Lecture —Formal presentation of a subject; may include a variety of delivery methods.
M	Maintaining Matriculation —Course enrollment requirement during completion of thesis or dissertation
N	Internship —Capstone supervised professional experience
O	Cooperative Education —Practical experience with a cooperating organization
P	Practicum —Supervised practical experience
R	Research —Directed investigation or experimentation
S	Seminar —Group discussion and exchange of information
T	Student Teaching —Capstone supervised teaching experience

Question 11 Be sure to indicate **AND** or **OR, if applicable**. Including a prerequisite on this form does not mean the Banner system will check for completion of appropriate course(s). A separate "On-Line Prerequisite Checking Request" form must be submitted to the Office of the Registrar to initiate on-line prerequisite checking.

Question 13 Courses can be restricted either by college, major, or classification. Use this area to include or exclude particular populations for enrollment in this course.

Ogden College of Science and Engineering
 Department of Geography and Geology
 Proposal to Revise a Program
 (Action Item)

Contact Person: David Keeling e-mail: david.keeling@wku.edu Phone: 5-4555

1. Identification of program

- 1.1 Program Reference Number: 072
- 1.2 Current Program Title: Master of Science in Geoscience
- 1.3 Credit hours: 30 hours

2. Identification of the proposed program changes:

- Core program requirements are revised to improve efficiency and time to program completion.
- A separate methods course is not necessary, as each thesis project is unique, so these courses have been reincorporated into the concentration cluster options.
- A 1-hour Research Methods II course is added to the core.
- Wording is changed on how students may select their 15 hours of electives.

3. Detailed program description:

Current Program	Proposed Program
MS Geoscience Thesis Program (30 hours)	MS Geoscience Thesis Program (30 hours)
<p>Admission Requirements:</p> <ul style="list-style-type: none"> * GRE score, with a minimum 3.5 score on the GRE Analytical Writing component, and a 3.0 overall undergraduate GPA. * Minimum of 18 hours of science courses at the undergraduate level, preferably in the geosciences. * A one-page statement of research interests. * Written evidence of an agreement from a graduate faculty member in the Department of Geography and Geology willing to supervise the proposed research project. ** Passing grade (C or higher) in an introductory GIS course (GEOG 316/317) and in Spatial Data Analysis (GEOG 391) at the undergraduate level - students can take these courses as preparatory 	<p>Admission Requirements:</p> <ul style="list-style-type: none"> * GRE score, with a minimum 3.5 score on the GRE Analytical Writing component, and a 3.0 overall undergraduate GPA. * Minimum of 18 hours of science courses at the undergraduate level, preferably in the geosciences. * A one-page statement of research interests. * Written evidence of an agreement from a graduate faculty member in the Department of Geography and Geology willing to supervise the proposed research project. ** Passing grade (C or higher) in an introductory GIS course (GEOG 316/317) and in Spatial Data Analysis (GEOG 391) at the undergraduate level - students can take these courses as preparatory courses if they

courses if they have not previously taken these courses. If taken as a graduate student, a grade of "B" or better is required.	have not previously taken these courses. If taken as a graduate student, a grade of "B" or better is required.
<u>Program Core</u> 17-18 hours	<u>Program Core</u> 15 hours
GEOS 500 Geoscience Research 4	GEOS 500 Geoscience Research 4
GEOS 520 Geo Stats Methods 4	GEOS 502 Research Methods 1
Students choose one of the following methods courses based on their	GEOS 520 Geo Stats Methods 4
Research Concentration: 3-4	GEOS 599 Research Thesis 6
Physical:	<u>Concentration Electives**</u> 15 hours
— GEOS 502 Field Research — 4	15 hours of graduate coursework selected from the following electives and approved by the thesis director. Students may select appropriate courses from any of the course clusters:
Geographic Information Science:	Physical Science Cluster:
— GEOS 523 Urban GIS Apps — 4	GEOG 502 Research Methods 3
Cultural:	GEOS 510 Research Topics 3
— GEOS 530 Cultural — 4	GEOS 515 Remote Sensing 4
Environment:	GEOS 521 Geomorphology 3
— GEOS 587 Law and Policy — 3	GEOS 559 Hydrological Fluid 3
Climate:	GEOS 566 Karst Geoscience 3
— GEOS 555 Global Change — 3	GEOS 595 Geoscience Practicum 3
GEOS 599 Research Thesis 6	GEOG 427G Water Resources 3
<u>Concentration Electives**</u> 12-13 hrs	GEOS 428G Applied Groundwater 3
At least 12 hours of graduate course-work in the specified Research	GEOL 4xxG Any Geology course 3
Concentration approved by the thesis director and selected from the following electives:	Cultural Science Cluster:
CONCENTRATION	GEOS 501 Geoscience Development 3
Physical Science:	GEOS 507 Concepts/Skills for Teach 3
GEOS 510 Research Topics 3	GEOS 510 Research Topics 3
GEOS 515 Remote Sensing 4	GEOS 525 Political Geography 3
GEOS 521 Geomorphology 3	GEOS 530 Cultural Geography 3
GEOS 559 Hydrological Fluid 3	GEOS 534 Historic Preservation 3
GEOS 566 Karst Geoscience 3	GEOS 540 Regional Geography 3
GEOS 595 Geoscience Practicum 3	GEOS 550 Economic Geography 3
GEOG 427G Water Resources 3	GEOS 580 Urban Geography 3
GEOG 428G Applied Groundwater 3	GEOS 585 Population Geography 3
GEOL 4xxG Any Geology course 3	GEOS 595 Geoscience Practicum 3
CONCENTRATION	GEOG 451G Geography Kentucky 3
Cultural Science:	G.I. Science Cluster:
GEOS 501 Geoscience Development 3	GEOS 510 Research Topics 3
GEOS 507 Concepts/Skills for Teach 3	GEOS 515 Remote Sensing 4
GEOS 510 Research Topics 3	GEOS 517 Spatial Databases 3
GEOS 525 Political Geography 3	GEOS 523 Urban GIS Applications 4

GEOS 534 Historic Preservation	3	GEOS 577 Special Topics GIS	3
GEOS 540 Regional Geography	3	GEOS 584 Advanced Planning	3
GEOS 550 Economic Geography	3	GEOS 590 Experimental Design	3
GEOS 580 Urban Geography	3	GEOS 595 Geoscience Practicum	3
GEOS 585 Population Geography	3	GEOG 417G GIS Analysis	3
GEOS 595 Geoscience Practicum	3	GEOG 419G GIS Programming	3
GEOG 451G Geography Kentucky	3		
CONCENTRATION		Environmental Science Cluster:	
Geographical Information Science:		GEOS 505 Biogeography	3
GEOS 510 Research Topics	3	GEOS 506 Environment Seminar	3
GEOS 515 Remote Sensing	4	GEOS 510 Research Topics	3
GEOS 517 Spatial Databases	3	GEOS 515 Remote Sensing	4
GEOS 577 Special Topics GIS	3	GEOS 543 Env Science Concepts	3
GEOS 584 Advanced Planning	3	GEOS 544 Environmental Ethics	3
GEOS 590 Experimental Design	3	GEOS 571 Quality of Life	3
GEOS 595 Geoscience Practicum	3	GEOS 587 Env. Law and Policy	3
GEOG 417G GIS Analysis	3	GEOS 595 Geoscience Practicum	3
GEOG 419G GIS Programming	3	GEOG 474G Environment Planning	3
		GEOL 415G Environmental Geology	3
CONCENTRATION		Climate Science Cluster:	
Environmental Science:		GEOS 510 Research Topics	3
GEOS 505 Biogeography	3	GEOS 515 Remote Sensing	4
GEOS 506 Environment Seminar	3	GEOS 522 Physical Climatology	3
GEOS 510 Research Topics	3	GEOS 533 Synoptic Meteorology	3
GEOS 515 Remote Sensing	4	GEOS 535 Dynamic Meteorology II	3
GEOS 543 Env Science Concepts	3	GEOS 537 Mesoscale Meteorology	3
GEOS 544 Environmental Ethics	3	GEOS 538 Physical Meteorology	3
GEOS 571 Quality of Life	3	GEOS 539 Atmospheric Modeling	3
GEOS 595 Geoscience Practicum	3	GEOS 555 Global Climate Change	3
GEOG 474G Environment Planning	3	GEOS 595 Geoscience Practicum	3
GEOL 415G Environmental Geology	3	GEOG 424G Weather Analysis	3
CONCENTRATION			
Climate Science:			
GEOS 510 Research Topics	3		
GEOS 515 Remote Sensing	4		
GEOS 522 Physical Climatology	3		
GEOS 533 Synoptic Meteorology	3		
GEOS 535 Dynamic Meteorology II	3		
GEOS 537 Mesoscale Meteorology	3		
GEOS 538 Physical Meteorology	3		
GEOS 539 Atmospheric Modeling	3		
GEOS 595 Geoscience Practicum	3		
GEOG 424G Weather Analysis	3		
** A maximum of six hours of advisor-approved electives that are consistent with the student's <u>Research Concentration</u> interests may be selected from other departments or from other Geoscience		** A maximum of six hours of advisor-approved electives that are consistent with the student's <u>Research Focus</u> may be selected from other departments.	

concentrations			
PROGRAM TOTAL	30 hours	PROGRAM TOTAL	30 hours

4. Rationale for the proposed program changes:

- Reducing the core requirements to 15 hours facilitates better workload management and more appropriate student engagement.
- Removing the program concentration research methods course from the core and incorporating these courses into the electives provides more flexibility for students and faculty workload.
- Adding a 1-hour Research Methods requirement to the core will enable students to develop their thesis topic more extensively in the Spring semester one-on-one with their thesis advisor.
- Restructuring the electives to allow students to select 15 hours of coursework from sub-specialty clusters reduces the number of program change forms needed and makes the program design process less confusing.

5. Proposed term for implementation and special provisions:

- **Term: Fall 2015**

6. Dates of prior committee approvals:

Geography and Geology Graduate Committee	<u>11/14/2014</u>
OCSE Graduate Curriculum Committee	_____
Graduate Council	_____
University Senate	_____

Attachment: Program Inventory Form

Office of the Registrar

Program Inventory Form

The purpose of this form is to provide data necessary to update the university program inventory for new or revised academic programs and related program information. This form will be prepared by the originating department and accompany program materials submitted to the University Curriculum Committee (UCC) for action. Following approval by the UCC and University Senate (US), program information will be entered into the Banner system. See second page of form for college and department codes.

1. Academic Program Reference No. Name
(Note: Reference codes for new programs will be assigned by the Registrar)

2. College Department Code

3. Degree/Certificate Certificate Associate: indicate specific degree
 Baccalaureate: indicate specific
 Graduate: indicate specific degree

4. Type of Program Major Minor Pre-Professional
 Other (describe)

5. Program Action New program: CIP (obtain from Office of the VP for Academic Affairs)
 Revise program title to:

Delete program Reactivate suspended program Suspend program

Move program
FROM: College Code Department Code
TO: College Code Department Code

Add concentration(s) to program

Delete concentration(s) from program

Approved as Certifiable for Teacher Education

Delete as Certifiable for Teacher Education

Other (describe)

6. Implementation Term (e.g., Spring 2010=201010, Fall 2010=201030)

7. Submitted by: Department Head Date

Process Block Assign Ref No. _____ Program Change Form _____	Date of Approvals University Curriculum Committee _____ University Senate _____ Provost _____ Board of Regents (if applicable) _____
---	---

College and Departmental Code Values

AR Arts & Letters

AFAM	African American Studies
ART	Art
COMM	Communication
ENG	English
GOVT	Political Science
FLKA	Folk Studies and Anthropology
HIST	History
INT	International Programs
JOUR	School of Journalism and Broadcasting
MLNG	Modern Languages
MUS	Music
PHIL	Philosophy and Religion
SOCL	Sociology
THEA	Theatre and Dance

BU Gordon Ford College of Business

ACCT	Accounting
BA	Business Administration
CIS	Computer Information Systems
ECON	Economics
FIN	Finance
MGT	Management
MKT	Marketing and Sales

CC Community College

AS	Academic Support Division
BUS	Business and Computer Studies Division
GS	Liberal Arts and Sciences Division
HEAL	Health Sciences Division

ED Education & Behavioral Sciences

CNSA	Counseling and Student Affairs
EALR	Educational Adm., Leadership and Research
EDLD	Educational Leadership (doctoral program only)
MIL	Military Science
PSY	Psychology
TCH	School of Teacher Education

EX Exploratory Studies

ACAD	Academic Advising and Retention
ND	Non Degree

GC Graduate Studies

GRAD	Graduate Studies Office
------	-------------------------

HH Health & Human Services

ALHL	Allied Health
CD	Communication Disorders
CFS	Consumer and Family Sciences
NURS	School of Nursing Baccalaureate/Graduate
PHY	Kinesiology, Recreation and Sport
PUBH	Public Health
SWRK	Social Work

IS University College

ACMS	Math and Science Academy
ADM	Leadership Dynamics
CIT	Computer Information Technology
HON	Honors
LEAD	Leadership Studies
WOMN	Women's Studies

SC Science & Engineering

AERO	Air Force ROTC
AGRI	Agriculture
AMS	Architectural and Manufacturing Sciences
BIOL	Biology
CHEM	Chemistry
DEAN	Office of Dean – SC College
ENGR	Engineering
GEO	Geography and Geology
MACS	Mathematics and Computer Science
PHYA	Physics and Astronomy