

MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Ms. Robin Ayers
Dr. Nahid Gani
Dr. Scott Grubbs
Dr. Ting-Hui Lee
Dr. Jeremy Maddox

Dr. Andy Mienaltowski
Dr. Les Pesterfield
Dr. Todd Willian
Mr. Jason Wilson

FROM: Dr. Stuart Burris, Chair

SUBJECT: Agenda for Thursday, March 3rd at 4:00 p.m.

A. OLD BUSINESS:

- I. Consideration of the minutes of the February 3, 2022 meeting.

B. NEW BUSINESS:

Type of item	Description of Item & Contact Information
Informational	<u>Temporary Course Proposal:</u> PSYS 332, Laboratory in Human & Animal Learning, 1 hour <u>The following items were sent through the expedited process:</u> Proposal to Change Course Schedule Type: AGED 471 Proposal to Change Course Prefix: AMS 381 Proposal to Change Course Prereq/Corequisites: BIOL 348
Action	Proposal to Create a New Course ANSC 342, Advanced Riding Maneuvers & Collection, 3 hrs. Contact: Paige Smith, paige.smith@wku.edu , 615-946-1576
Action	Proposal to Change Course Credit Hours GISC 414: Remote Sensing Fundamentals, 4 hrs. Amy Nemon, amy.nemon@wku.edu , x 3082
Action	Proposal to Change a Program Ref. 174: Geographic Information Systems Certificate Amy Nemon, amy.nemon@wku.edu , x 3082
Action	Proposal to Change Course Prereq/Coreqs CM 262: Construction Laboratory, 1 hour Jason Wilson, Jason.wilson@wku.edu , x2322

C. OTHER BUSINESS

Members Present:

Ms. Robin Ayers
Dr. Nahid Gani
Dr. Scott Grubbs
Dr. Ting-Hui Lee
Dr. Jeremy Maddox
Dr. Gordon Baylis for Andy Mienaltowski
Dr. Les Pesterfield
Dr. Todd Willian
Mr. Jason Wilson

Guest: Dr. Royhan Gani and Dr. Guangming Xing

FROM: Dr. Stuart Burris, Chair

The meeting was called to order at 4:00pm.

OLD BUSINESS:

Minutes from December meeting required no corrections and were approved as posted.

NEW BUSINESS:

Consent Agenda

Baylis/Pesterfield motioned to approve the consent agenda. Motion passed.

Action Agenda

Willian/Grubbs motioned to approve the Proposal to Make Multiple Revisions to a Course: GEOL 350. Motion passed.

Willian/Maddox motioned to approve the Proposal to Change Course Credit Hours: METR/GEOG 422. Motion passed.

Grubbs/Willian motioned to approve the Proposal to Revise a Program: Ref. 5008, Geological Sciences major. Motioned passed with a friendly amendment.

Baylis/Grubbs motioned to approve the Proposal to Revise a Program: Ref. 434, Neuroscience minor. Motion passed.

Baylis/Grubbs motioned to approve the Proposal to Revise a Program: Ref. 440, Psychological Sciences minor. Motion passed.

Willian/Pesterfield motioned to table the Proposal to Revise a Program: Ref. 747E/747: Psychological Sciences major. Motion passed.

Grubbs/Gani motioned to approve the Proposal to Revise a Program: Ref. 629P/629, Computer Science major.

Willian/Baylis motioned to approve Proposal to Revise a Program: Ref. 5007, Engineering Technology Management. Motion passes with friendly amendment.

Other Business:

None

Course Change Request

Temporary Course New Course Proposal

Date Submitted: 02/10/22 5:57 pm

Viewing: **PSYS 332 : Laboratory in Human and Animal Learning**

Last revision: 02/10/22 5:57 pm

Changes proposed by: and30774

In Workflow

1. **PSYS Approval**
2. **SC Dean**
3. **Undergraduate Curriculum Committee**
4. Provost
5. Course Inventory

Approval Path

1. 02/10/22 4:28 pm
Kelly Madole
(kelly.madole):
Rollback to Initiator
2. 02/10/22 6:25 pm
Kelly Madole
(kelly.madole):
Approved for PSYS Approval
3. 02/11/22 7:49 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

Proposed Action

Temporary

Contact(s)

Name	E-mail	Phone
Matthew Shake	matthew.shake@wku.edu	270-681-2584

Term for implementation	Fall 2022		
Academic Level	Undergraduate		
Course prefix (subject area)	PSYS - Psychological Sciences	Course number	332
Department	Psychological Sciences		
College	Science and Engineering		

Course title

Laboratory in Human and Animal Learning

Abbreviated course title LAB in HUMAn/ANIMAL learning

Course description

Laboratory emphasizing experimental design and data collection in human and other animal learning.

Credit hours 1

Repeatable

Yes

Number of repeats 2

For maximum credits 1

Default grade type Standard Letter Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code 420101 - Psychology, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		PSYS 331	D	UG		Yes

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

In psychological science, both practitioners and researchers benefit from the opportunity to evaluate theories of learning by engaging in hands-on exercises and experiments in a laboratory environment. The proposed course will give students the tools to conduct experiments, analyze data, and test hypotheses related to concepts they learn about in the corresponding lecture course.

We hope to offer this lab course in Fall 2022 as a temporary course and then propose it officially in the Fall to add to our Psychological Science major.

Is this related to other courses at WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

None

Is this course part of a program that leads to teacher certificate? No

Learning outcomes

#	Learning outcomes
1	Evaluate and test theories that explain elements of classical, operant, and observational learning.
2	Demonstrate an understanding of how to design and execute a learning experiment.
3	Critically examine, analyze, and write about data collected from learning experiments.
4	Apply principles of learning to real-world scenarios or problems.

Content outline

#	Topic
1	Eliciting reflexive behavior; tracking habituation and sensitization

#	Topic
2	Acquisition and extinction of a classically conditioned response
3	Altering relationships between conditioned and unconditioned stimuli and effects on response
4	Procedures for utilizing instrumental conditioning
5	Developing instrumental responses via schedules of reinforcement
6	Exerting stimulus control over behavior

Student
expectations and
requirements

As this is a laboratory class requiring either prerequisite or concurrent enrollment in the PSYS 331 lecture, students will take learning concepts learned in the lecture and apply them in the lab via short in-class activities that will help them to design experiments, carry them out, and evaluate the results. After completion of each exercise, they will prepare written reports in APA-style that will document the findings.

Tentative texts and
course materials

No outside course materials needed. A Lab manual developed by the instructor will be provided to students.

Special equipment,
materials, or library
resources needed

Consumable materials will need to be purchased for this course and will be acquired via a course fee. The Department of Psychological Sciences maintains a teaching lab with the needed space and computers.

Additional
information

Note that this is a temporary course proposal for Fall 2022. We will submit a revision to make it permanent early on in Fall 2022.

Supporting
documentation

[PSYS 332 libresourcev.doc](#)

[PSYS332Syllabus Sample.pdf](#)

Reviewer Comments

Kelly Madole (kelly.madole) (02/10/22 4:28 pm): Rollback: for andy

Key: 9540

Course Change Request

Date Submitted: 02/09/22 2:37 pm

Viewing: **AGED 471 : Organization and Planning in Agricultural Education**

Last revision: 02/09/22 2:37 pm

Changes proposed by: thm32673

In Workflow

1. **AGRI Approval**
2. **SC Dean**
3. Professional Education Council
4. Provost
5. Course Inventory

Approval Path

1. 02/10/22 9:03 am
Fred DeGraves
(fred.degraves):
Approved for AGRI Approval

Catalog Pages referencing this course

- [Agricultural Education \(AGED\)](#)
- [Agriculture, Bachelor of Science \(508\)](#)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Thomas Kingery	thomas.kingery@wku.edu	270-745-3151

Review Type	Expedited		
Term for implementation	Spring 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	AGED - Agricultural Education	Course number	471
Department	Agriculture		
College	Science and Engineering		
Course title	Organization and Planning in Agricultural Education		
Abbreviated course title	ORGANIZATION/PLAN AG ED		

Course description

A teacher preparation course designed to prepare pre-service teachers for the student teaching experience and

for a full-time teaching position. Unit planning, lesson preparation, and delivery comprise the major portion of this course. Note: Admission to student teaching required.

Credit hours 3

Repeatable

Yes

Number of repeats 1

For maximum credits 3

Default grade type Standard Letter Alternate grade type(s)
 NG-No Grade

Is this course intended to span more than one term?

No

Schedule type

Lab

Lecture

Applied Learning

CIP Code 131301 - Agricultural Teacher Education.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AGED 250	D	UG		
Or		EDU 250	D	UG)	
And		SPED 330	D	UG		
And		AGRI 398	D	UG		
And		PSY 310	D	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

In order to get the time block for the course, I was asked to change the schedule type from lecture and lab to applied learning. Otherwise, I am asked to fill out a course approval non-standard time form to get the three hour time block needed.

Is this related to other courses at WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

Todd Willian, Fall 2021

Are you seeking Colonnade approval for this course? No

Is this course part of a program that leads to teacher certificate? **Yes**

Learning outcomes

#	Learning outcomes
1	Students develop teacher calendars for lesson plans and implementation.
2	Students plan semester lab activities for potential course they may teach which include: Agriculture Mechanics/Construction, Greenhouse Management/Horticulture, Agribusiness Management, Agriscience/ Fundamentals of Agriculture, Animal Science/Vet Science courses.
3	Students will write and develop laboratory instructions and implement those instructions in a laboratory setting to complete each activity.

#	Learning outcomes
4	Students will design instructions for lessons and laboratories in sequential order that meet the learning outcomes for the exercise.
5	Students will use their knowledge, skill, and abilities from previous courses to work in a hands on environment to complete planning and organizational steps for multiple classes they may teach in secondary agricultural education classes.
6	Students will learn how to evaluate their work based on multiple grading styles and student learner performance, needs, and abilities.

Content outline

#	Topic
1	Introduction to laboratory based learning using lesson planning, calendars and scheduling, and implementation in a laboratory based hands on classroom environment. total time 3 hours.
2	Agriculture construction laboratory planning. Writing and designing the wooden tool box lab using technical writing and drawing. Schematics and information will be completed from start to finish. total time 3 hours.
3	Agriculture mechanics laboratory lesson planning using a pre-written lab lesson to complete a metal tool tray with limited input from the instructor. total time 3 hours.
4	Agriculture mechanics laboratory lesson planning using building codes and electrical circuit training boards. total time 3 hours.
5	Agriculture mechanics laboratory lesson planning using concrete and masonry tools. Total time 3 hours.
6	Agriculture natural resources laboratory lesson planning using animal tracks, casts, and molds for collection and identification. total time 3 hours.
7	Agriculture natural resources laboratory lesson planning using rocks and minerals for identification along with soil identification and tests for each type of specimen collected. total time 3 hours.
8	Agriculture natural resources laboratory lesson planning identifying common species of trees, flowers, and shrubs in Kentucky. Campus plants and a visit to the Baker Arboretum will be utilized. total time 3 hours.
9	Agriculture animal science laboratory lesson planning understanding the differences of phenotype and genotype in domesticated livestock species. total time 3 hours.
10	Agriculture animal science laboratory lesson planning on expected progeny differences. Utilizing EPDS on selection and management decisions with domesticated livestock species. total time 3 hours.
11	Agriculture animal science laboratory lesson planning on animal nutrition for large and small animals. Understanding and designing animal nutrition labels for small pets and livestock. total time 3 hours.

#	Topic
12	Agriculture plant science laboratory lesson planning on model building for dicots and monocots. total time 3 hours.
13	Agriculture plant and science laboratory lesson planning on landscape design, selection, and maintenance for residential and commercial clients. total time 3 hours.
14	Agriculture plant and science laboratory lesson planning on floral design. total time 3 hours.
15	Agriculture education leadership laboratory lesson planning on student motivation and participation in career development events. total time 3 hours
16	Agriculture education leadership laboratory lesson planning on character development contest preparation. total time 3 hours.

Student

expectations and requirements

Students are expected to attend the class each week. Attendance in class will be taken and is worth points toward the final grade. Students are required to actively prepare and teach agriculture education labs in this course each week.

Tentative texts and course materials

Methods of Teaching Agriculture, 3rd edition.

Special equipment, materials, or library resources needed

Spot welder, pop rivets and install tool, varying types of saws, multiple hand tools, and power meter.

Additional information

This course allows students to plan, organize, and implement agricultural education laboratory exercises that they must teach in the secondary school setting. This course allows the students to plan and use equipment and tools that they may have little or no knowledge. This gives the pre-service teacher more confidence in executing these laboratory exercises once they enter the profession and assist in securing their first teaching position.

Supporting documentation

Reviewer Comments

Course Change Request

Date Submitted: 02/08/22 1:58 pm

Viewing: **MFGE AMS 381 : Food Quality Assurance**

Also listed as: **AMS 381**

Formerly known as: **AMS 381**

Last revision: 02/08/22 1:58 pm

Changes proposed by: hnn63928

In Workflow

1. **EAS Approval**
2. **SC Dean**
3. Provost
4. Course Inventory

Approval Path

1. 02/08/22 2:34 pm
Mark Cambron
(mark.cambron):
Approved for EAS
Approval

Proposed Action

Suspended

Active

Contact(s)

Name	E-mail	Phone
John Khouryieh	hanna.khouryieh@wku.edu	270-745-4126

Review Type	Expedited		
Term for implementation	Fall 2022		
Academic Level	Undergraduate		
Course prefix (subject area)	MFGE AMS - Architectural & Engineering Technology	Course number	381
Department	Engineering & Applied Sciences, School of		
College	Science and Engineering		
Course title	Food Quality Assurance		
Abbreviated course title	FOOD QUALITY ASSURANCE		

Course description

Theory and application of quality assurance programs for the food processing industry, with emphasis on good manufacturing practices, sanitation programs and audits.

Credit hours 3

Repeatable

Yes

Number of repeats 2

For maximum credits 3

Default grade type Standard Letter Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Lecture

CIP Code 011002 - Food Technology and Processing.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AMS 301	D	UG		No
Or		BIOL 207	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing
the course

The course prefixes for the Manufacturing Engineering Technology program have been changed from AMS to MFGE

Is this related to
other courses at
WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

N/A

Are you seeking Colonnade approval
for this course? No

Is this course part of
a program that leads
to teacher
certificate? **No**

Learning outcomes

#	Learning outcomes
1	<p>By the end of this course, students will be able to:</p> <ol style="list-style-type: none"> 1) Explain plant sanitation principles and the requirements for good manufacturing practices. 2) Describe the common quality audits in the food industry. 3) Demonstrate the use of statistical methods and control charts to monitor and control food quality

Content outline

#	Topic
1	<ul style="list-style-type: none"> - Organization and functions of Food QA department - Ingredient specifications and supplier certification - Good Manufacturing Practices (GMPs) - Food Plant Sanitation - Manufacturing Audits: Control of Processing Operations - Good manufacturing practice audits - Cleaning in food processing - Sanitizing in food processing - Statistical methods of quality control in the food industry - Control charts

Student
expectations and
requirements

Tentative texts and
course materials

Special equipment,
materials, or library
resources needed

Additional
information

Supporting
documentation

Reviewer Comments

Key: 457

Course Change Request

Date Submitted: 02/21/22 3:40 pm

Viewing: **BIOL 348 : Plant Taxonomy**

Last revision: 02/21/22 3:40 pm

Changes proposed by: sct16030

Catalog Pages
referencing this
course

[Agriculture, Bachelor of Science \(508\)](#)
[Biology \(BIOL\)](#)

In Workflow

1. **BIOL Approval**
2. **SC Dean**
3. Provost
4. Course Inventory

Approval Path

1. 02/21/22 3:45 pm
Michael Smith
(michael.smith1):
Approved for BIOL
Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Scott Grubbs	scott.grubbs@wku.edu	270 745-3696

Review Type	Expedited		
Term for implementation	Fall 2022		
Academic Level	Undergraduate		
Course prefix (subject area)	BIOL - Biology	Course number	348
Department	Biology		
College	Science and Engineering		
Course title	Plant Taxonomy		
Abbreviated course title	PLANT TAXONOMY		

Course description

Identification of local plant species and survey of major vascular plant families emphasizing morphological diversity, evolutionary relationships and economic uses. Field trips required.

Credit hours 0-4

Repeatable

Yes

Number of repeats 2

For maximum credits 4

Default grade type Standard Letter Alternate grade type(s)
 NG-No Grade

Is this course intended to span more than one term?

No

Schedule type

Lab

Lecture

CIP Code 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		BIOL 120 222	C	UG		No
And		BIOL 121 223	C	UG		No
And		BIOL 122	C	UG		No
And		BIOL 123	C	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study
restriction/major? NoClassification
restriction? NoDepartmental
Restrictions

Reason for changing
the course

BIOL 222/223 (Botany and Botany Lab) have been the prerequisites for BIOL 348 for several years, but mainly as a experimental mechanism to enhance demand in BIOL 222/223. This did not enhance demand for BIOL 222/223. Much of what is covered in BIOL 120/121 and BIOL 122/123 is adequate preparation for BIOL 348. Moreover, changing the prerequisites to the BIOL 100-series all with grades of "C or higher" would be consistent with what is required for several BIOL 300-level organismal, ecological, and evolution courses. Examples include BIOL 315 (Ecology), BIOL 325 (Insect Biodiversity), BIOL 334 (Animal Behavior), BIOL 377 (Animal Form and Function).

Is this related to
other courses at
WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

There would be no impact on other departments. Occasionally, a Horticulture Concentration student has shown interest in BIOL 348. We have allowed these students to register and this will not change.

Are you seeking No
Colonnade approval
for this course?

Is this course part of **No**
a program that leads
to teacher
certificate?

Learning outcomes

#	Learning outcomes
1	Learn basic techniques of plant identification emphasizing morphological terminology.
2	Characterize and recognize major families of plants and identify 100+ species.
3	Learn phylogenetic relationships amongst flowering plant taxa.

Content outline

#	Topic
1	Herbaria and classification
2	Vegetative morphology

#	Topic
3	History of plant taxonomy
4	Binomial nomenclature
5	Reproductive morphology of flowers and fruits
6	Basal angiosperms - Magnoliids
7	Monocots
8	Eudicots

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 1206

Course Change Request

New Course Proposal

Date Submitted: 02/04/22 8:12 pm

Viewing: **ANSC 342 : Advanced Riding Maneuvers and Collection**

Last revision: 02/04/22 8:12 pm

Changes proposed by: pgm45000

In Workflow

1. **AGRI Approval**
2. **SC Dean**
3. SC Curriculum Committee
4. Undergraduate Curriculum Committee
5. University Senate
6. Provost
7. Course Inventory

Approval Path

1. 02/07/22 8:32 am
Fred DeGraves
(fred.degraves):
Approved for AGRI
Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Paige Smith	paige.smith@wku.edu	615-946-1576

Term for implementation Fall 2022

Academic Level Undergraduate

Course prefix (subject area) ANSC - Animal Science Course number 342

Department Agriculture

College Science and Engineering

Course title
Advanced Riding Maneuvers and Collection

Abbreviated course title Advanced riding maneuvers

Course description

Collection of a horse and application of certain advanced maneuver techniques, such as the side pass, spin, lead changed, sliding stops, and jumping.

Credit hours 3

Repeatable

No

Default grade type Standard Letter Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code 010507 - Equestrian/Equine Studies.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 232	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study
restriction/major? No

Classification
restriction? No

Departmental
Restrictions

Reason for
developing the

proposed course

To serve as an educational bridge between material presented in Basic Equitation (ANSC 232) and prior to Horse Training (ANSC 333/334).

Is this related to
other courses at
WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

None

Is this course part of a program that leads to teacher certificate? No

Learning outcomes

#	Learning outcomes
1	Recognize when a horse is collected and be able to feel for where the head, neck, body, and hip of the horse are and where they should be.
2	Describe how to apply pressure with the legs, seat, and hands to prompt a horse to properly perform a side pass, spin, and lead change.
3	Identify how to correctly approach and perform obstacles commonly seen in a trail pattern- bridges, walk/trot/lope poles and gates.
4	Recognize when a horse is correctly performing a sliding stop and sit properly on the horse while doing so.
5	Recognize the correct timing on approaching and reading a line leading to a jump.

Content outline

#	Topic
1	Collection
2	Side passing
3	Trail obstacles
4	Spins
5	Lead changes
6	Sliding stops

#	Topic
7	Jumping

Student expectations and requirements

Tentative texts and course materials
None

Special equipment, materials, or library resources needed
Riding boots and jeans

Additional information

Supporting documentation

Reviewer Comments

Key: 9509

Course Change Request

Date Submitted: 02/23/22 8:31 pm

Viewing: **GISC 414 : Remote Sensing Fundamentals**

Also listed as: **GEOG 414**

Last revision: 02/23/22 8:31 pm

Changes proposed by: amy83008

Catalog Pages
referencing this
course

GISC 414:

[Department of Earth, Environmental, and Atmospheric Sciences](#)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Amy Nemon	amy.nemon@wku.edu	270-745-3082

Review Type

Full Review

In Workflow

- GEO Approval**
- SC Dean**
- SC Curriculum Committee**
- Undergraduate Curriculum Committee
- University Senate
- Provost
- Course Inventory

Approval Path

- 02/23/22 4:29 pm
Leslie North
(leslie.north):
Approved for GEO Approval
- 02/23/22 4:38 pm
Stuart Burris
(stuart.burris):
Rollback to Initiator
- 02/23/22 8:35 pm
Leslie North
(leslie.north):
Approved for GEO Approval
- 02/25/22 8:15 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

Term for implementation	Fall 2022		
Academic Level	Undergraduate		
Course prefix (subject area)	GISC - Geographic Info Science	Course number	414
Department	Geography & Geology		
College	Science and Engineering		
Course title	Remote Sensing Fundamentals		
Abbreviated course title	REMOTE SENSING FUNDAMENTALS		

Course description

Fundamentals of remote sensing theory and application including the electromagnetic spectrum, history of remote sensing, sensing platforms, system limitations, and applications for vegetation studies, land-use change, and environmental management. Course includes a lab component. Note: Permission of instructor may be required.

Credit hours **3 4**

Repeatable

Yes

Number of repeats 2

For maximum credits **3 4**

Default grade type Standard Letter Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Applied Learning

CIP Code 450701 - Geography.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?
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And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?
		GIS 317	D	UG		

Corequisites

Equivalent Courses

GEOG 414

Department

Geography & Geology

College

Science and Engineering

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

GIS 414 Remote Sensing Fundamentals is an upper level elective course for any of the major programs within the Department of Earth, Environmental, and Atmospheric Sciences. This course has been traditionally a four hour credit course along with a graduate equivalent course GEOS 515. A number of years back the graduate section was modified to a three hour course. The department has determined that the courses should be aligned with one another as both three hours. This will support our trend of upper level electives within the department.

The evolution of remote sensing technology has created an ease to the processing, downloading, displaying, analyzing and interpreting of large data sets. Due to this contrast with the older techniques students are able to complete these vital skills without the same amount of instruction as well as the need for equipment that must be utilized on campus only. The modern technology is quickly moving to a completely online platform that will allow students the flexibility to complete work outside of the lab facilities as well as in a completely online format.

The department is confident that reducing the hours will not impact the content covered in the course with the new flexibility as the same or more can be covered in less time. The department does not feel that changing the objectives is necessary despite less contact time.

Is this related to
other courses at
WKU?

No


What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

N/A

Are you seeking Colonnade approval
for this course? No

Is this course part of a program that leads to teacher certificate? **No**

Learning outcomes

#	Learning outcomes
1	Explain what remote sensing is (and is not), outline its history and evolution, and display appropriate vocabulary in explaining the physical principles upon which it is based, i.e. electromagnetic radiation and its interaction with matter.
2	Describe and explain the broad range of remote sensing techniques, instruments, data acquisition formats, systems and platforms that have applications in geographical and environmental sciences, including black and white, color, and color-infrared film and digital photography/imaging; multispectral sensors; thermal infrared imaging/thermography; and ground, aerial, and satellite/space platforms.
3	Outline and explain the basic principles of acquisition, storage, transmission, processing, and analysis of remotely sensed data, to include the derivation of vegetation and soil indices, unsupervised and supervised image classification and spectral signature development, shape and pattern recognition.
4	Outline and explain how remote sensing has been applied in the past, and may be applied in the future, to geographical and environmental sciences.
5	Display a working knowledge of the historic and current literature of remote sensing including the principle journals publishing in the field. 
6	Formulate strategies for incorporating remote sensing into the student's research or area of interest (and in their careers) and carry out such research independently.

Content outline

#	Topic
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#	Topic
1	<p>1. Learn the basic physics of electromagnetic radiation, its interplay with reflection, emission, refraction, and scattering properties.</p> <p>2. Explain the basic interaction of the Sun's electromagnetic spectrum with the atmosphere, terrain, and earth's surface features.</p> <p>3. Explain the elements of visual image interpretation and use the spectral reluctance properties of earth materials and land cover to interpret and analyze images. Emphasis on change over time.</p> <p>4. Explain various satellite data and their spatial, temporal, spectral, and radiometric characteristics.</p> <p>5. Learn the historical applications of remote sensing and variety of platforms for collecting remotely sensed data.</p> <p>6. Learn technical steps for obtaining, enhancing, analyzing, and classifying remotely sensed data for interpretation and problem solving.</p> <p>7. Familiarize with multi-spectral, thermal infrared, active and passive microwave remote sensing imagery and processing.</p> <p>8. Introduced to the new applications of 3D Lidar data particularly for resource management.</p> <p>9. Introduced to the Normalized Difference Vegetation Index for environmental monitoring.</p> <p>10. Also introduced to the fundamentals of remote sensing of water, vegetation, urban landscapes, soils, minerals, environment, geology, and geomorphology.</p> <p>11. Use ArcGIS Pro software functions for basic digital image processing, enhancement, and interpretation.</p> <p>12. Learn various applications of remote sensing data and techniques critical to Earth Observation. Understanding the platform provides the scientist with a unique set of information we can obtain no other way.</p>

Student expectations and requirements

Tentative texts and

course materials

Special equipment,
materials, or library
resources needed

Additional
information

Supporting
documentation

Reviewer Comments

Stuart Burris (stuart.burris) (02/23/22 4:38 pm): Rollback: Changing credit hours has to go through full review. In order for the workflow to reset correctly, it has to go back to the initiator (Amy).

Key: 4404

Program Change Request

Date Submitted: 02/23/22 10:18 am

Viewing: **174 : Geographic Information Systems, Certificate**

Last approved: 09/20/21 11:26 am

Last edit: 02/24/22 11:12 am

Changes proposed by: amy83008

Catalog Pages

Using this Program

[Geographic Information Systems, Certificate \(174\)](#)

Proposed Action

In Workflow

1. GEO Approval
2. SC Dean
3. SC Curriculum Committee
4. Undergraduate Curriculum Committee
5. University Senate
6. Provost
7. Program Inventory

Approval Path

1. 02/21/22 10:20 pm
Leslie North
(leslie.north):
Rollback to Initiator
2. 02/22/22 8:08 am
Leslie North
(leslie.north):
Rollback to Initiator
3. 02/23/22 1:41 pm
Leslie North
(leslie.north):
Approved for GEO Approval
4. 02/25/22 8:14 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. May 26, 2021 by
Rheanna Plemons
(rheanna.plemons)
2. Sep 20, 2021 by
Jennifer Hammonds
(jennifer.hammonds)

Active

Contact Person

Name	Email	Phone
Amy Nemon	amy.nemon@wku.edu	270-745-3082

Term of Implementation 2022-2023

Program Reference Number 174

Review Type Full Review

Academic Level Undergraduate

Program Type Certificate - Undergraduate

Department Geography & Geology

College Science and Engineering

Program Name (eg. Biology) Geographic Information Systems, Certificate

Will this program have concentrations?
No

CIP Code 45.0702 - Geographic Information Science and Cartography.

Will this program lead to teacher certification?
No

Does the proposed program contain 25% or more new content not previously taught in another course at WKU? If yes, contact the Office of the Provost for additional SACSCOC proposal requirements

No

Catalog Content

Program Overview (Catalog field: Overview tab)

Geographic Information Systems (GIS) technology is widely used in business, industry, government, and education. This certificate is designed for students in a variety of disciplines that involve the analysis, mapping, display, and interpretation of geospatial data and information. Students who complete the program will have a solid foundation that spans the collection, management, analysis, interpretation, and display of data using GIS. They will gain practical experience by completing projects that require the use of sophisticated GIS functions. Finally, they will learn how to develop and implement their own customized GIS functions.

The program is housed in the Department of Earth, Environmental and Atmospheric Sciences.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (**14** ~~20~~ hours)

Select one of the following GEOL or GEOG courses:

GEOG 103	Our Dynamic Planet	3
or GEOG 103	Our Dynamic Planet	
or GEOG 111	The Earth	
or METR 121	Meteorology	

AND

GEOG 110	World Regional Geography	3
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~~or six credit hours of suitable courses from other majors approved by the Certificate advisor.~~

~~Total Hours~~ ~~0~~

Enroll in the following GISC courses:

<u>GISC 316</u>	Fundamentals of GIS	4
<u>GISC 317</u>	Geographic Information Systems	4
<u>GISC 417</u>	GIS Analysis & Modeling	3
<u>GISC 419</u>	GIS Programming	3

Total Hours 14

Will this program be managed or owned by more than one department?

No

Does this program include courses from outside your department?

No

Please insert one Learning Outcome per box. Click green plus sign for additional LO boxes

Learning Outcomes

and Measurement

Plan

	List all student learning outcomes of the program.	Measurement Plan
SLO 1	Organize GIS data and communicate effectively through mapping using accepted	not required for certificates

	List all student learning outcomes of the program.	Measurement Plan
	principles of cartographic design and spatial reference systems	
SLO 2	Demonstrate proficiency in the quantitative and qualitative spatial analysis and critical thinking through written and oral communication	not required for certificates
SLO 3	Demonstrate proficiency in GIS project planning, design, and implementation, as well as mastery of advanced geoprocessing and modeling techniques	not required for certificates

Assessment Template: https://www.wku.edu/academicaffairs/ee/assurance_learning_resources.php

Upload Assessment
Plan

Delivery Mode

Is 25% or more of this program offered at a location other than main campus?

No

Enter Location(s)
and Percentage of
Program Offered at
Location(s)

Is 50% or more of this program offered by distance education (online asynchronous, online synchronous, connected classrooms, etc.)?

Yes

Do you plan to offer 100% of this program online?

Yes

Do you plan to offer 100% of this program face-to-face?

Yes ~~No~~

Do you plan to offer at least 25% of this program as a direct assessment competency-based educational program?

No

See the SACSCOC Policy on Direct Assessment Competency-based Educational Programs.

<https://www.sacscoc.org/pdf/081705/DirectAssessmentCompetencyBased.pdf>

Rationale for the program proposal?

The Department of Earth, Environmental, & Atmospheric Sciences would like to demonstrate a more competitive certificate program in Geographic Information Systems by dropping the required number of hours from twenty to fourteen. After researching a large number of certificate programs across the United States, see attachment,, it has been discovered that the WKU program is above the average number of hours compared to the other programs. Currently the WKU program is at twenty and the average, based on the schools researched, is at fifteen.

Currently the certificate requires two 100-level courses, non-GIS courses that are complementary to GIS, in the geographic, geologic or meteorologic fields and four GIS courses (GISC 316, 317, 417, & 419) that total the twenty hours. The department would like to drop the two required 100-level courses from the certificate program bringing the certificate down to fourteen hours and in-line with comparable programs across the US. The content of those courses is not necessary for the success in the GISC courses, and other science majors have regularly substituted their program intro courses into the certificate.

Originally the department included the 100-level courses to ensure that students understood looking through a spatial lense as well as understanding different scales. The current trend of students enrolled in the certificate program are over 96% majors within the department of Earth, Environmental, and Atmospheric Sciences. These students already require at least one of these 100 level courses for their majors. The few students from outside of the department typically have an equivalent science-based course with a degree of spatial understanding. The small percentage of non-traditional students, that are only attending WKU for the certificate, commonly have been awarded a bachelor's degree or have equivalent work experience. The department is confident that enrolled students to the certificate have already been introduced to these spatial concepts, have the concepts reinforced through readings and assignments in GISC 316. Removing these courses from the certificate will not limit the students understanding of GIS.

To note this certificate is available to our on campus traditional students also available 100% through On-Demand and available to interested non-degree seeking individuals within the field.

Additional
Attachments

[GIS_Programs.xlsx](#)

Additional information or attachments

Please see the attachment that demonstrates an overview of the programs reviewed to support the desire for the change.

Reviewer Comments

Leslie North (leslie.north) (02/21/22 10:20 pm): Rollback: Review for any final changes based on template documents shared.

Leslie North (leslie.north) (02/22/22 8:08 am): Rollback: *

Course Change Request

Date Submitted: 02/15/22 11:29 am

Viewing: **CM 262 : Construction Laboratory**

Last revision: 02/15/22 11:29 am

Changes proposed by: jsn97026

In Workflow

1. **EAS Approval**
2. **SC Dean**
3. SC Curriculum Committee
4. Undergraduate Curriculum Committee
5. University Senate
6. Provost
7. Course Inventory

Catalog Pages referencing this course

[Construction Management \(CM\)](#)
[School of Engineering and Applied Sciences](#)

Proposed Action

Approval Path

1. 02/18/22 2:06 pm
Mark Cambron (mark.cambron):
Approved for EAS Approval

Active

Contact(s)

Name	E-mail	Phone
Jason Wilson	jason.wilson@wku.edu	2707452322

Review Type **Full Review**

Term for implementation Fall 2022

Academic Level Undergraduate

Course prefix (subject area) CM - Construction Management Course number 262

Department Engineering & Applied Sciences, School of

College Science and Engineering

Course title Construction Laboratory

Abbreviated course title CONST METHODS & MATERIALS LAB

Course description

The laboratory to accompany AMS 261. Hands-on experience with basic construction methods and materials used in light commercial and residential construction, including framing, concrete, masonry, and miscellaneous metals.

Credit hours 1

Repeatable

Yes

Number of repeats 2

For maximum credits 1

Default grade type Standard Letter Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Applied Learning

CIP Code 522001 - Construction Management, General.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		Math 117	D	UG		No
Or		Math 136	D	UG		No
Or		Math 137	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Students are missing some key fundamental aspects of trigonometry when performing calculations and construction in the course.

Is this related to other courses at WKU?

No

What departments/programs have been consulted concerning potential impact (e.g. to possible duplication or conflict, changed corequisite or prerequisite for equivalent courses, etc.)? Please provide names and dates for individuals consulted.

Dr. Kanita DuCloux (Math Department) for prereq add. 2/15/22

Are you seeking Colonnade approval for this course? No

Is this course part of a program that leads to teacher certificate? **No**

Learning outcomes

#	Learning outcomes
1	Develop knowledge of materials used in light construction
2	Prepare individuals to serve as managers of light construction
3	Prepare individuals to instruct workers or other persons in basic, sound, construction practices.
4	Prepare individuals to locate construction resources used in design and construction management.

Content outline

#	Topic
1	Building Construction Process

#	Topic
2	Excavation and Foundation
3	Concrete Construction
4	Masonry Construction
5	Steel Construction
6	Light Frame Construction
7	Timer Construction
8	Finish Systems

Student
expectations and
requirements

Tentative texts and
course materials

Special equipment,
materials, or library
resources needed

Additional
information

Supporting
documentation

Reviewer Comments

Key: 9246