MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Melanie Autin
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 <u>Thursday, February 2, 2023</u>

A. OLD BUSINESS:

I. Consideration of the minutes of the January 5, 2022 meeting.

II. Proposal to Revise a Program: Ref.747/747E, Psychological Sciences, 37-49 hrs. Contact Andrew Mienaltowski, Andrew.mienaltowski@wku.edu, 270-681-0270.

B. NEW BUSINESS:

Type of item	Description of Item & Contact Information
Informational	**<u>The following items were sent through the expedited process:</u>** **Proposal to Suspend a Course** AGEC 391 AGRO 414, 455, 456 ANSC 444, 445 HORT 401, 402, 405, 406 **Adding or revise student learning outcomes and content outline** METR 121, 122, 324, 325, 326, 335, 422, 425, 430, 431, 432, 433, 437, 438, 439, 460, 475
Acton	**Proposal to Revise a Program** Ref. 508, Agriculture, 50-80 hrs. Contact: Todd Willian, todd.willian@wku.edu, 270-745-5669
Action	**Proposal to make a Course Revision** METR 322: Global Climate Systems, 4 hrs. Contact: Greg Goodrich, greg.goodrich@wku.edu, x5986
Action	**Proposal to Revise a Program** Ref. 5008, Geological Sciences, 30-48 hrs. Contact: Royhan Gani, Royhan.gani@wku.edu, 270-745-5977
Action	**Proposal to Revise a Program** Ref. 5006, Manufacturing Engineering Technology, 61 hrs. Contact: Greg Arbuckle, greg.arbuckle@wku.edu, 270-681-2403

C. OTHER BUSINESS

Minutes – OCSE Curriculum Committee **January 2023**

Members Present:
Dr. Melanie Autin
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

Guests: Dr. Matthew Shake

FROM: Dr. Stuart Burris, Chair

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

OLD BUSINESS:
Minutes from the December 2022 meeting required no corrections and were approved as posted.

NEW BUSINESS:

Action Agenda
Autin/Willian motioned to approve the Proposal to Revise a Program: Ref. 747/747E Psychological Sciences. After much discussion, Maddox/Pesterfield motioned to table the proposal. Motion passed on an 8 to 1 vote in favor of tabling the proposal.

Other Business:
None

Program Change Request

Date Submitted: 12/02/22 7:18 am

Viewing: 747E/747 : Psychological Science, Bachelor of Science

Last approved: 05/10/22 9:52 am

Last edit: 01/23/23 2:06 pm

Changes proposed by: and30774

Catalog Pages
Using this Program
Psychological Science, Bachelor of Science (747)

Proposed Action

Active

In Workflow

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

Approval Path

1. 12/14/22 5:46 pm Kelly Madole (kelly.madole): Approved for PSYS Approval
2. 01/02/23 7:41 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. May 26, 2021 by Rheanna Plemons (rheanna.plemons)
2. Sep 27, 2021 by Jennifer Hammonds (jennifer.hammonds)
3. Oct 13, 2021 by Jessica Dorris (jessica.dorris)
4. May 10, 2022 by Andrew Mienaltowski (andrew.mienaltowski

Contact Person

Name	Email	Phone
Andrew Mienaltowski	andrew.mienaltowski@wku.edu	270-681-0270

Term of Implementation	2023-2024
Program Reference Number	747E/747
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	Psychological Sciences
College	Science and Engineering
Program Name (eg. Biology)	Psychological Science, Bachelor of Science

Will this program have concentrations?
Yes

Concentrations

Concentrations

Applied Psychological Science (PAPS)
Biobehavioral Psychology (PBBP)
Clinical Psychological Science (PCPS)
Cognitive Psychology (PCGP)
Developmental Science (PDVS)
Neuroscience (PNEU)
Social Psychology (PSOP)
Quantitative Psychology (PSQP)
General (PGEN)

CIP Code	42.2799 - Research and Experimental Psychology, Other.
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)

The Department of Psychological Sciences offers programs designed for students who are interested in a science-oriented degree that will prepare them for graduate study in psychology, neuroscience, ~~psychology~~ or a related field (e.g., medical school, pharmacy, physical therapy) or for employment in jobs where strong quantitative and research skills are required.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (37-49 hours)

The department provides two options for the Bachelor of Science degree. The non-extended option requires a minimum of 37 credit hours and a minor or second major is required. The extended option requires a minimum of 49 unduplicated credit hours and no minor or second major is required. For both options, students will complete a program of study that includes Core and Concentration components as well as a Laboratory Experience component. To complete the Core requirement, students will select a total of 25 to 28 credit hours from the following categories: Foundations of Psychology, Developmental Processes, Learning and Cognition, Individual Differences and Social Processes, Biological Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology. To complete the Concentration requirement, students will select courses from one or two of the six thematic concentrations or they may design a general concentration (subject to approval by their advisor). To complete the Laboratory Experience component, students will complete one PSYS lab course or one PSYS lecture / lab course at the 300-level or above. Students in the non-extended option will complete 12 credit hours from one thematic concentration, or design a custom concentration by selecting 12-24 hours from PSYS courses not used to satisfy their Core requirement. Students choosing the extended option will complete 24 credit hours from two concentrations or 24 – 25 hours from the quantitative psychology concentration.

The interdisciplinary neuroscience concentration is a single concentration option for students. Students in this concentration complete 56-58 hours of courses with an emphasis on neuroscience. Students who select this concentration cannot minor in Neuroscience.

Students must maintain a minimum 2.50 GPA both overall and in the major. Either

MATH 116 and MATH 117, or

MATH 118 or higher is required; MATH 183 is recommended.

Students who select the extended option with the quantitative psychology concentration must complete MATH 136. To satisfy the math requirement for the major, students in the neuroscience concentration may also complete MATH 136.

Students in the non-extended option of the Psychological Science major can count no more than 3 credits of PSYS 490 toward the major. Students in the extended option, including the quantitative concentration, ~~option~~ may count no more than 6 credits of PSYS 490 towards the ~~the~~ major, with no more than 3 credits counting toward a single concentration's requirements. ~~requirements. PSYS 300 is recommended to meet the Colonnade:~~ Students in the neuroscience concentration of the Psychological Science major may count no more than 3 credits of PSYS 490 towards the major. PSYS 300 is recommended to meet the Colonnade: Writing in the Disciplines requirement but does not satisfy major requirements.

The Psychological Science major includes laboratory experiences. In addition to completing a laboratory in research methods, students in the non-extended option of the major and in the extended option of the major (including the

quantitative concentration) complete one additional laboratory experience. Students in the neuroscience concentration complete two additional psychological science laboratory experiences in addition to the research methods laboratory.

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 6, 2022 10:48am

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at www.wku.edu/registrar/degree_certification.php.
Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: https://www.wku.edu/colonnade/colonnaderequirements.php.

Concentrations for the general and extended major:

Applied Psychological Science
Biobehavioral Psychology
Clinical Psychological Science
Cognitive Psychology
Developmental Science
Neuroscience
Social Psychology
Quantitative Psychology
General Concentration

Applied Psychological Science Concentration

This concentration focuses on how psychological science can be used to solve real-world problems in business, sports, or human engineering domains.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 333	Cognitive Psychology	3
PSYS 350	Social Psychology	3
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3

Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
Required Course:		
PSYS 413	Psychological Measurement	
Select 9 hours from the following:		9
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 360	Behavioral Neuroscience	
or PSYS 363	Sensory and Perceptual Systems	
PSYS 370	Industrial / Organizational Psychology	
PSYS 433	Judgment and Decision Making	
PSYS 450	Psychology of Personality	
PSYS 473	Training in Business and Industry	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
PSY 340	Sport Psychology	
PSY 355	Issues in Cross-Cultural Psychology	
PSY 412	Psychology of Motivation and Emotion	
PSY 470	Psychology and Law	
Laboratory Experience		
Select one course from the following:		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	

PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		35-37

Biobehavioral Psychology Concentration

This concentration provides knowledge of the biological bases of behavior and thought.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
PSYS 360	Behavioral Neuroscience	3
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
PSYS 363	Sensory and Perceptual Systems	3
Select 9 hours from the following:		9
PSYS 333	Cognitive Psychology	
PSYS 431	Psychology of Language	

PSYS 444	Psychology of Substance Use Disorders	
PSYS 462	Neuroscience of Learning and Memory	
PSYS 463	Evolutionary Psychology	
PSYS 465	Psychopharmacology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Laboratory Experience		
Select one course from the following:		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		38-40

Clinical Psychological Science Concentration

This concentration focuses on mechanisms and etiologies of psychological health and dysfunction.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
or PSYS 333	Cognitive Psychology	
PSYS 440	Abnormal Psychology	3

PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
Select 12 hours from the following:		12
PSYS 350	Social Psychology	
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 360	Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 423	Psychology of Adult Life and Aging	
PSYS 425	Developmental Psychopathology	
PSYS 442	Psychology of Suicide and Self-Injury	
PSYS 444	Psychology of Substance Use Disorders	
PSYS 450	Psychology of Personality	
PSYS 451	Psychology of Religion	
PSYS 453	Psychology of Women	
PSYS 462	Neuroscience of Learning and Memory	
PSYS 465	Psychopharmacology	
PSYS 481	History of Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	

PSYS 499	Senior Seminar in Psychology	
Laboratory Experience		**1-3**
Select one course from the following:		
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		38-40

Cognitive Psychology Concentration

This concentration emphasizes the scientific study of mental processes such as attention, perception, memory, problem-solving, thinking, and language use.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 333	Cognitive Psychology	3
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3

PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
Select 12 hours from the following:		12
PSYS 331	Principles of Human and Animal Learning	
PSYS 363	Sensory and Perceptual Systems	
PSYS 423	Psychology of Adult Life and Aging	
PSYS 431	Psychology of Language	
PSYS 433	Judgment and Decision Making	
PSYS 462	Neuroscience of Learning and Memory	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
PSY 412	Psychology of Motivation and Emotion	
Laboratory Experience		
Select one of the following courses:		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		38-40

Developmental Science Concentration

This addresses the physical, emotional, intellectual, social, perceptual, and personality growth of humans throughout the lifespan.

Concentration Courses		
Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
or PSYS 333	Cognitive Psychology	
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Select 12 hours from the following:		12
PSYS 220	Introduction to Lifespan Developmental Psychology	
PSYS 321	Child Developmental Psychology	
PSYS 423	Psychology of Adult Life and Aging	
PSYS 424	Topics in Developmental Psychology	
PSYS 425	Developmental Psychopathology	
PSYS 431	Psychology of Language	
PSYS 453	Psychology of Women	

PSYS 463	Evolutionary Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Laboratory Experience		
Select one of the following courses:		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		38-40

Social Psychology Concentration

This concentration emphasizes the study of how social situations affect behavior.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
or PSYS 333	Cognitive Psychology	
PSYS 350	Social Psychology	3
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3

PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
PSYS 413	Psychological Measurement	
Select 9 hours from the following:		9
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 433	Judgment and Decision Making	
PSYS 440	Abnormal Psychology	
PSYS 450	Psychology of Personality	
PSYS 451	Psychology of Religion	
PSYS 453	Psychology of Women	
PSYS 463	Evolutionary Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
PSY 412	Psychology of Motivation and Emotion	
Laboratory Experience		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	

PSYS 415	Programming for Social Sciences	
Total Hours		35-37

General Concentration

This concentration allows students, with help from their advisor, to design an individualized theme.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
or PSYS 333	Cognitive Psychology	
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
Select 12-24 hours of electives from PSYS courses not used to satisfy Core requirements		12-24
Laboratory Experience		
Select one of the following courses:		1-3
PSYS 322	Laboratory in Developmental Psychology	

PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		38-52

Neuroscience Concentration

This interdisciplinary concentration emphasizes neuroscience and includes courses investigating the brain from the level of cellular biology to higher order psychological systems. This concentration requires more than 48 hours, so students do not need a minor or second major. Also, students in this concentration do not select another concentration within the Psychological Science Major. Note that students who intend on completing BIOL 319 as a Biology elective in this concentration will first need to earn a C or higher in CHEM 120 and CHEM 121. These prerequisites are not part of the Neuroscience concentration in the Psychological Science Major.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
or BIOL 382	Introductory Biostatistics	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
PSYS 331	Principles of Human and Animal Learning	3
PSYS 360	Behavioral Neuroscience	3
Choose one - Integrative Science in Psychology (3 credits)		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	

PSYS 490	Independent Study in Psychological Sciences	
Upper Level PSYS concentration requirements		
PSYS 333	Cognitive Psychology	3
PSYS 363	Sensory and Perceptual Systems	3
PSYS 465	Psychopharmacology	3
Additional PSYS electives		3
PSYS 431	Psychology of Language	
PSYS 444	Psychology of Substance Use Disorders	
PSYS 462	Neuroscience of Learning and Memory	
PSYS 463	Evolutionary Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Lab experiences (two labs; 2-4 credits)		2-4
PSYS 161	Introduction to Biopsychology Laboratory	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 415	Programming for Social Sciences	
Lower level Biology core		
BIOL 120	Biological Concepts: Cells Metabolism and Genetics	3
BIOL 121	Biological Concepts: Cells, Metabolism, and Genetics Lab	1
BIOL 122	Biological Concepts: Evolution, Diversity, and Ecology	3
BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology Lab	1

Upper level BIOL concentration requirements		
BIOL 335	Neurobiology	3
Additional BIOL electives		6
BIOL 312	Bioinformatics	
BIOL 316	Evolution: Theory and Process	
BIOL 319	Introduction to Molecular and Cell Biology	
BIOL 322	Introduction to Molecular and Cell Biology Laboratory	
BIOL 327	Genetics	
BIOL 337	Genetics Laboratory	
BIOL 334	Animal Behavior	
BIOL 411	Cell Biology	
BIOL 464	Endocrinology	
BIOL 495	Molecular Genetics	
Total Hours		56-58

Quantitative Psychology Concentration

This concentration focuses on the use of advanced data manipulation and statistical analysis techniques within psychological science to examine discipline-specific research questions. This concentration requires at least 49 hours, so students do not need a minor or second major. Also, students in this concentration do not select another concentration within the Psychological Science Major.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	3
or PSYS 333	Cognitive Psychology	
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
Select one of the following:		3
PSYS 360	Behavioral Neuroscience	

PSYS 363	Sensory and Perceptual Systems	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Concentration Courses		
Select one of the following:		3-4
CS 146	Introduction to Programming	
CS 170	Problem Solving and Programming	
CS 180	Computer Science I	
STAT 301	Introductory Probability and Applied Statistics	3
STAT 330	Introduction to Statistical Software	3
STAT 401	Regression Analysis	3
or STAT 402	Experimental Design	
PSYS 413	Psychological Measurement	3
Select 9 PSYS upper-level elective hours selected in consultation with an advisor		9
Laboratory Experience		**1-3**
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING	Course PSYS 332 LABORATORY IN HUMAN AND ANIMAL LEARNING Not Found	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		50-53

4-Year Plan

Psychological Science, General

First Year

Fall	Hours	Spring	Hours
PSYS 100	3	PSYS Foundation Course	3
MATH 183	3	PSYS 160	3
ENG 100	3	PSYS 210	3
COMM 145	3	PSYS 211	1
Elective or Minor Course	3	Colonnade	3
		Elective or Minor Course	3
	15		16

Second Year

Fall	Hours	Spring	Hours
PSYS 313	3	PSYS Foundation Course	3
ENG 200	3	PSYS Foundation Course	3
Colonnade or Elective Course	3	Minor Course	3
Minor Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15		15

Third Year

Fall	Hours	Spring	Hours
PSYS Concentration Course	3	PSYS Concentration Course	3
PSYS Foundation Course/Lab Course	3-4	ENG 300	3
Minor Course	3	Minor Course	3
Minor Course	3	Minor Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15-16		15

Fourth Year

Fall	Hours	Spring	Hours
PSYS Concentration Course	3	PSYS Concentration Course	3
PSYS Integrative Science Course	3	Minor or Elective Course	3
Minor or Elective Course	3	Minor or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15		15

Total Hours 121-122

Psychological Science, Extended

First Year

Fall	Hours	Spring	Hours
MATH 183	3	PSYS Foundation Course	3
PSYS 100	3	PSYS 160	3
ENG 100	3	PSYS 210	3
COMM 145	3	PSYS 211	1
Elective or Colonnade Course	3	Colonnade	3

First Year

Fall	Hours	Spring	Hours
		Elective or Colonnade Course	3
	15		16

Second Year

Fall	Hours	Spring	Hours
PSYS 313	3	PSYS Foundation Course	3
ENG 200	3	PSYS Foundation or Concentration Course	3
PSYS Foundation Course	3	Minor Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15		15

Third Year

Fall	Hours	Spring	Hours
PSYS Concentration Course	3	PSYS Concentration Course	3
PSYS Foundation Course/Lab Course	3-4	PSYS Concentration Course	3
Colonnade or Elective Course	3	ENG 300	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15-16		15

Fourth Year

Fall	Hours	Spring	Hours
PSYS Concentration Course	3	PSYS Concentration Course	3
PSYS Concentration Course	3	PSYS Concentration Course	3
PSYS Integrative Science Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
Colonnade or Elective Course	3	Colonnade or Elective Course	3
	15		15

Total Hours 121-122

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

No

Does this program include courses from outside your department?

Yes

Outside Courses

Details

Who approved including these courses?	When were they approved?
Psychology	Prior to 2020-2021 catalog year
Computer Science/SEAS	Prior to 2020-2021 catalog year
Mathematics	Prior to 2020-2021 catalog year
Biology	Fall 2022

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	Develop a working knowledge of psychology's content domains	Assess student learning within each foundational category (Developmental Processes, Learning and Cognition, Individual Differences and Social Processes, and Biological Bases of Behavior and Mental Processes) of the major's content core. Student performance on 3-4 items for each of 3-4 learning outcomes (i.e., 9-16 items) for each of the following courses: 220, 321, 331, 333, 350, 360, 363, and 440
SLO 2	Interpret, design, and conduct basic psychological research	Assess student learning within research methods and statistics courses. Student performance on 3-4 items for each of 3-4 learning outcomes (i.e., 9-16 items) for each of the following courses: 210/211, 313
SLO 3	Apply ethical standards to evaluate psychological science and practice	Document student training in the appropriate conduct of research with human subjects, including the completion of CITI training in research methods course
SLO 4	Applies learning outcomes of the methods and statistics courses in the lab (for students completing independent study)	Assess the diversity of activities of Psychological Sciences majors who complete Independent Study (e.g., PSYS 490)
SLO 5	Integrate knowledge gained in complementary disciplines of psychology (for students in 747E only)	Students complete open-ended instrument in which they are asked to describe at least two ways that theories or research findings in one discipline/core of psychology impacts or interacts with another (e.g., concentration). Scored with rubric across four levels (unsatisfactory to exceptional)

Delivery Mode

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

Yes

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

Location	Percentage
Elizabethtown	40
Glasgow	60
Owensboro	40

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

No

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

No

If no, enter the percentage of the program that will be taught online.

0

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

Yes

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

Library Resources

Attach library resources

Rationale for the program proposal?

The proposed changes to the program include:
(1) Adding PSYS 453 Psychology of Women to the Developmental Science concentration - The course content includes development, sexuality, and gender roles in the family that evolve from adolescence through adulthood. The course provides students in the developmental science concentration an opportunity to consider developmental research questions associated with womanhood and evolving roles across one's lifetime.
(2) PSYS 332 Laboratory in Human and Animal Learning was recently approved. We are adding this course to all of the existing concentrations as a possible course for students to take to meet the major's laboratory requirement. The Department of Psychological Sciences has 6 lab courses, including PSYS 322, PSYS 332, PSYS 334, PSYS 365, PSYS 413, and PSYS 415. In addition to adding PSYS 332 to each of the existing concentrations as a possible lab for students to take, each of the other lab courses are also being added to each concentration as a possible lab course for students to take. The goal is to standardize the presentation of the lab courses in the program so that students realize they can complete any of our lab courses to meet the lab requirement for the major's existing concentrations (Applied Psychological Science, Biobehavioral Psychology, Clinical Psychological Science, Cognitive Psychology, Developmental Science, Social Psychology, Quantitative Psychology, and General Concentration). When students declare the Psychological Science major and choose any of these existing concentrations, they are currently only required to complete one of the aforementioned lab courses. Note that students who declare two concentrations from the existing options only have to complete one of these aforementioned lab courses in total. Students who opt for the neuroscience concentration will complete two lab experiences in Psychological Sciences.
(3) Over the past 5 years, WKU has had 30-40 students minor in Neuroscience per year. Public universities in Kentucky with a major in neuroscience include the University of Kentucky, the University of Louisville, Morehead State University, and Northern Kentucky University. Currently, the University of Kentucky has around 400 students majoring in neuroscience; Louisville has around 200. Over the past 3 years, Morehead State University and Northern Kentucky University have had around 25-35 majors enrolled each year in their neuroscience programs. Overall, we have more students in our minor here at WKU than generally major in neuroscience at each of these two regional universities. When recruiting students to the university, recruiting officials report that prospective students express an interest in a neuroscience major and are disappointed to learn that we do not have a neuroscience major. Given the popularity of the neuroscience minor, we are proposing adding a concentration to the Psychological Science major that would allow students to choose a neuroscience program linked directly to a major during the application process. A recent survey of 191 of current WKU students mainly in lower level Psychological Science, Biology, and Chemistry courses demonstrated that 56.5% of those queried would consider majoring in neuroscience, with 38.3% reporting a high likelihood of choosing neuroscience as a major if it were available. The vast majority of these students reported that their future education and career goals included going on to graduate school (25%) or medical school (30.6%). The proposed concentration utilizes courses already offered by the Departments of Psychological Sciences and Biology, and includes curriculum comparable to neuroscience programs at Kentucky regional universities. If the concentration is popular, a new program will be developed at WKU that will include additional courses and academic units. At this time, the commitment of new faculty lines to this endeavor is limited, so, by creating a neuroscience concentration within the Psychological Science major, we hope to build out the department's research capacity to support students in this domain given

hope to build out the department's research capacity to support students in this domain given interest in the concentration. The proposed concentration, if popular, could grow enrollment for the courses specified within the proposal. Those required upper level courses may see the need for additional sections to be offered, necessitating additional faculty effort as approved by the Office of the Dean of College of Science and Engineering. Our hope is that the proposed concentration will attract more first time, first year students to WKU to study neuroscience. A sample 4-year plan for students completing this concentration is included as an attached document.

Note that the Department of Psychological Sciences reached out to the chairs of the Biology Department and the Psychology Department on 10/12/2022 about the proposed revisions.

Additional Attachments: psychological_sciences_neuroscience_747.docx

Additional information or attachments

Note that PSYS 365 was approved by UCC on 11/16/21 and the University Senate on 12/9/2021
Note that PSYS 415 was approved by the OCSE curriculum committee on 12/2/2021

Reviewer Comments

Key: 341

Course Change Request

Course Suspension

Date Submitted: 12/12/22 11:13 am

Viewing: **AGEC 391 : Survey of Commodity Futures and Options**

Last revision: 12/12/22 11:13 am

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:07 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Agricultural Economics (AGEC)
Department of Agriculture and Food Science

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Todd Willian	todd.willian@wku.edu	270-745-5969

Review Type	Expedited
Term for implementation	Fall 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments? N/A

Reason for suspending or

deleting the
proposed course

Course has not been offered in many years; not since the instructor retired.

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

Effect on programs
or other departments

No effect upon other programs or departments.

Reviewer Comments

Key: 154

Course Change Request

Course Suspension

Date Submitted: 12/12/22 11:06 am

Viewing: AGRO 414 : Crop Improvement

Last revision: 12/12/22 11:06 am

Changes proposed by: wll99339

Catalog Pages referencing this course

Agronomy (AGRO)
Department of Agriculture and Food Science

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Todd Willian	todd.willian@wku.edu	270-745-5969

Review Type	Expedited
Term for implementation	Fall 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments?	N/A
Reason for suspending or	

In Workflow

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

Approval Path

1. 01/18/23 2:09 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

deleting the
proposed course

This course has not been taught in many years; not since the instructor retired.

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

Effect on programs
or other departments

No effect upon other programs or departments.

Reviewer Comments

Key: 292

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:32 pm

Viewing: AGRO 455 : Soil Chemistry

Last revision: 11/07/22 12:32 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agronomy (AGRO)
Department of Agriculture and Food Science

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Becky Gilfillen	becky.gilfillen@wku.edu	270-745-5970

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments?	N/A
Reason for suspending or	

In Workflow

1. AGRI Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/18/23 2:08 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

deleting the
proposed course

This course has not been offered for many years but may be offered within a 5 year period of time by an incoming faculty member.

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.

No other departments/programs will be affected by this suspension.

Effect on programs
or other departments

No other departments/programs will be affected by this suspension.

Reviewer Comments

Key: 311

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:35 pm

Viewing: **AGRO 456 : Soil Chemistry Laboratory**

Last revision: 11/07/22 12:35 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:15 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Agronomy (AGRO)
Department of Agriculture and Food Science

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Becky Gilfillen	becky.gilfillen@wku.edu	270-745-5970

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments?	N/A
Reason for suspending or	

deleting the
proposed course

This course has not been offered for many years but may be within the next 5 years by an incoming faculty member.

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.

No departments/programs will be affected by this suspension.

Effect on programs
or other departments

No departments/programs will be affected by this suspension.

Reviewer Comments

Key: 313

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:55 pm

Viewing: ANSC 444 : Swine Production

Last revision: 11/07/22 12:55 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:09 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Animal Science (ANSC)
Department of Agriculture and Food Science

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Fred DeGraves	fred.degraves@wku.edu	270-745-3151

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments?	N/A
Reason for suspending or	

deleting the
proposed course

This course has not been offered for several years. Future reinstatement of the course to active status may occur if personnel and/or facility additions occur.

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.

No departments/programs will be impacted by this suspension.

Effect on programs
or other departments

No departments/programs will be impacted by this suspension.

Reviewer Comments

Key: 562

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:57 pm

Viewing: **ANSC 445 : Swine Production Laboratory**

Last revision: 11/07/22 12:57 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:16 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

~~Active~~

Suspended

Contact(s)

Name	E-mail	Phone
Fred DeGraves	fred.degraves@wku.edu	270-745-3151

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments? N/A

Reason for suspending or

deleting the
proposed course

This course has not been offered for several years. Future reinstatement of the course to active status may occur if personnel and/or facility additions occur.

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.

No departments/programs will be impacted by this suspension.

Effect on programs
or other departments

No departments/programs will be impacted by this suspension.

Reviewer Comments

Key: 563

Course Change Request

Course Deletion

Date Submitted: 11/07/22 12:40 pm

Viewing: HORT 401 : Landscape Plants II

Last revision: 11/07/22 12:40 pm

Changes proposed by: wll99339

In Workflow

1. AGRI Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/18/23 2:16 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Department of Agriculture and Food Science
Horticulture (HORT)

Proposed Action

~~Active~~
Deleted

Contact(s)

Name	E-mail	Phone
Martin Stone	martin.stone@wku.edu	270-745-5963

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Reason for changing the course

Have you contacted impacted | N/A

departments?

Reason for suspending or deleting the proposed course

This course has not been offered for many years and there are not plans to offer it again.

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.

No departments/programs are impacted by this deletion.

Effect on programs or other departments

No departments/programs are impacted by this deletion.

Reviewer Comments

Key: 5214

Course Change Request

Course Deletion

Date Submitted: 11/07/22 12:42 pm

Viewing: **HORT 402 : Landscape Plants II Laboratory**

Last revision: 11/07/22 12:42 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:16 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Department of Agriculture and Food Science
Horticulture (HORT)

Proposed Action

~~Active~~
Deleted

Contact(s)

Name	E-mail	Phone
Martin Stone	martin.stone@wku.edu	270-745-5963

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Reason for changing the course

Have you contacted impacted | N/A

departments?

Reason for suspending or deleting the proposed course

This course has not been offered for many years and there are no plans to offer it again.

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.

No departments/programs are impacted by this deletion.

Effect on programs or other departments

No departments/programs are impacted by this deletion.

Reviewer Comments

Key: 5216

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:45 pm

Viewing: HORT 405 : Nursery Management

Last revision: 11/07/22 12:45 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:16 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Department of Agriculture and Food Science
Horticulture (HORT)

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Martin Stone	martin.stone@wku.edu	270-745-5963

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments?	N/A
Reason for suspending or	

deleting the
proposed course

This course hasn't been offered within the past 5 years.

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.

No departments/programs will be impacted by this suspension.

Effect on programs
or other departments

No departments/programs will be impacted by this suspension.

Reviewer Comments

Key: 5222

Course Change Request

Course Suspension

Date Submitted: 11/07/22 12:47 pm

Viewing: **HORT 406 : Nursery Management Laboratory**

Last revision: 11/07/22 12:47 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 01/18/23 2:17 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval
2. 01/23/23 9:57 am Stuart Burris (stuart.burris): Approved for SC Dean

Catalog Pages referencing this course

Department of Agriculture and Food Science
Horticulture (HORT)

Proposed Action

~~Active~~
Suspended

Contact(s)

Name	E-mail	Phone
Martin Stone	martin.stone@wku.edu	270-745-5970

Review Type	Expedited
Term for implementation	Spring 2023
Academic Level	Undergraduate

Equivalent Courses

Have you contacted impacted departments? N/A

Reason for suspending or

deleting the
proposed course

This course has not been offered in several years.

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.

No departments/programs will be impacted by this suspension.

Effect on programs
or other departments

No departments/programs will be impacted by this suspension.

Reviewer Comments

Key: 5224

Course Change Request

Date Submitted: 01/26/23 2:14 pm

Viewing: METR 121 : Meteorology

Last revision: 01/26/23 2:14 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

Colonnade Requirements

Department of Earth, Environmental, and Atmospheric Sciences

In Workflow

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

Approval Path

1. 01/27/23 10:06 am Leslie North (leslie.north): Approved for GEO Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	121
Department	Geography & Geology		
College	Science and Engineering		
Course title	Meteorology		
Abbreviated course title	METEOROLOGY		

Course description

An introduction to the elements of the atmosphere, severe storms, atmospheric environmental issues, the interdependence between human life and the atmosphere, and rudimentary forecasting of basic weather systems. A self-paced laboratory is required. (2 hour lecture; 1 hour lab)

Credit hours 3

Repeatable
Yes
Number of repeats 2

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

CIP Code 400404 - Meteorology.

Does this course have prerequisites

No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course
Adding Colonnade learning outcomes, student learning outcomes, and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course?	No ~~Yes~~
Explorations: Course Categories	Natural & Physical Sciences Natural & Physical Sciences Lab

Student Learning Outcomes

#	Student Learning Outcomes
1	Distinguish between various forms of energy and energy transfer processes as well as distinguish the difference between sensible and latent heat
2	Describe how sun angle and length of daylight change during the year and how these changes produce the seasons
3	List the four essential climate controls and discuss the basic daily and annual cycles of air temperature
4	List and describe the forces that act on the atmosphere to produce wind and recognize wind circulation patterns on a variety of scales
5	Distinguish the formation processes and scales of mid-latitude cyclones, thunderstorms, tornadoes, and hurricanes
6	Distinguish among the various methods of weather forecasting and describe the basics of numerical weather prediction

Content outline

#	Topic
1	Earth atmosphere Air temperature Humidity and condensation Clouds and precipitation Air pressure and winds Atmospheric circulations

#	Topic
	Weather forecasting Air masses and fronts Severe storms Hurricanes

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6002

Course Change Request

Date Submitted: 01/26/23 2:21 pm

Viewing: METR 122 : Aviation Meteorology

Last revision: 01/26/23 2:21 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences

Meteorology (METR)

In Workflow

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

Approval Path

1. 01/27/23 10:06 am Leslie North (leslie.north): Approved for GEO Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	122
Department	Geography & Geology		
College	Science and Engineering		

Course title

Aviation Meteorology

Abbreviated course title	AVIATION METEOROLOGY

Course description

The emphasis of the course will be on weather elements and their measurements, weather instruments, weather codes needed by aviators, weather effects upon flying, and weather hazards of aviation.

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/Lab

CIP Code 400404 - Meteorology.

Does this course have prerequisites

No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made.

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
Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the physical forces that affect heavier than air flight
2	Demonstrate skill in reading and interpreting weather reports and charts related to aviation.
3	Demonstrate understanding of aviation weather products and services available to pilots
4	Demonstrate knowledge of atmospheric conditions associated with aviation hazards

Content outline

#	Topic
1	History of flight Principles of flight Aerodynamics and aircraft performance Structure of the atmosphere Atmospheric stability Clouds and precipitation Turbulence and adverse winds Icing and fog Convection and thunderstorms Tropical and arctic hazards Aviation weather services Radar interpretation Aviation weather products

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6003

Course Change Request

Date Submitted: 01/26/23 2:31 pm

Viewing: METR 324 : Weather Analysis and Forecasting

Also listed as: METR 424

Last revision: 01/26/23 2:31 pm

Changes proposed by: grg07567

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:06 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

METR 324:
Broadcast Communication (BCOM)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	324
Department	Geography & Geology		
College	Science and Engineering		

Course title

Weather Analysis and Forecasting

Abbreviated course title: WEATHER ANALYSIS & FORECASTING

Course description

Analysis of the atmosphere using satellite and radar imagery. Weather forecasting techniques using surface and upper air data are also examined. Note: Permission of instructor may be required.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 121	D	UG		

Corequisites

Equivalent Courses

METR 424 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

Adding student learning outcomes and content outline. No other changes were made.

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
Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of physical and dynamical processes that govern mid-latitude weather systems
2	Demonstrate skill at surface and upper air analysis of meteorological parameters
3	Demonstrate skill at oral map discussions that relate technical aspects of current and future weather at a synoptic scale
4	Demonstrate knowledge of the analytical tools and weather forecast models used in weather forecasting along with their known biases

Content outline

#	Topic

#	Topic
1	Numerical weather prediction Forecast tools and models Surface weather analysis Upper air weather analysis Stability and thermodynamic diagrams Governing equations and atmospheric dynamics Global circulation and Rossby waves Mid-latitude cyclone structure Frontal dynamics and jet streaks Cyclogenesis

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6005

Course Change Request

Date Submitted: 01/26/23 2:57 pm

Viewing: METR 325 : Meteorological Instrumentation and Measurement

Last revision: 01/26/23 2:57 pm

Changes proposed by: grg07567

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:06 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	325
Department	Geography & Geology		
College	Science and Engineering		

Course title

Meteorological Instrumentation and Measurement

Abbreviated course title: METEOROLOGICAL ~~METEOROLOGIAL~~ INSTRUMENTS

Course description

Introduces the purpose, operation, and application of meteorological instrumentation and the treatment of meteorological measurements.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 121	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

Adding student learning outcomes and content outline

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the history of weather instruments commonly found in surface weather stations
2	Demonstrate knowledge of the method of measurement of weather instruments commonly found in surface weather stations
3	Demonstrate proficiency in programming a data logger and measuring weather data using a variety of weather instruments
4	Analyze weather data using a variety of statistical techniques

Content outline

#	Topic
1	Data analysis Programming a data logger Shortwave radiation Longwave radiation Air temperature Soil temperature Humidity Wind Pressure

#	Topic
	Precipitation Climate measurement

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6006

Course Change Request

Date Submitted: 01/26/23 2:47 pm

Viewing: METR 326 ~~426~~ : Applied Meteorology / Climatology

Also listed as: ~~METR 426~~

Formerly known as: METR 426

Last revision: 01/26/23 2:46 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

METR 426:
Broadcast Communication (BCOM)

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:07 am Leslie North (leslie.north): Approved for GEO Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	326 ~~426~~
Department	Geography & Geology		
College	Science and Engineering		

Course title

Applied Meteorology / Climatology

Abbreviated course title	METEOROLOGY/CLIMATOLOGY

Course description

This course offers a practical insight into the influence of meteorology and climatology on everyday life. Environmental problems caused by changes in the atmosphere are also examined. Note: Permission of instructor may be required.

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 450701 - Geography.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 121	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

Adding student learning outcomes and content outline. Changed course number from 426 to 326 to reflect that in the current Meteorology program curriculum, this course is geared towards sophomore/junior level students instead of senior level students.

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of agricultural needs for weather and climatological data, including for planting, fertilizing, and harvesting; irrigation; crop selection; pest control management; and animal husbandry
2	Demonstrate knowledge of hydrological applications, including water management, flood control, and cloud seeding
3	Demonstrate knowledge of transportation applications, including aviation, ground transportation, ship and rail, and as it relates to high impact weather
4	Demonstrate knowledge of energy production and transmittance, including wind and solar production, and as it relates to high-impact weather
5	Demonstrate knowledge of space weather applications

#	Student Learning Outcomes
6	Demonstrate knowledge of health applications, including impacts from extreme temperature, air pollution, and related weather-sensitive issues (e.g., ticks, allergens, smoke)
7	Demonstrate knowledge of urban weather and impacts, such as urban heating and enhanced runoff
8	Demonstrate knowledge of miscellaneous topics, such as weather forensics, sports management, and emergency management

Content outline

#	Topic
1	Introduction to Applied Climatology: What is it? Tools used in Applied Climatology: Data and numerical methods Agricultural applications Hydrological applications Transportation applications Energy production and transmittance Space weather applications Health impacts and applications Urban weather impacts and applications Miscellaneous topics

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6010

Course Change Request

Date Submitted: 01/19/23 2:37 pm

Viewing: METR 335 : Satellite/Radar Meteorology

Last revision: 01/19/23 2:37 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:06 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	335
Department	Geography & Geology		
College	Science and Engineering		

Course title

Satellite/Radar Meteorology

Abbreviated course title	SATELLITE/RADAR METEOROLOGY

Course description

An introduction to remote sensing specific to the atmospheric sciences. Specific attention is given to analysis, diagnostic, and prognostic determinations using various satellites, as well as surface and space-based active

radar systems. Specific applications focus on synoptic and mesoscale phenomena, including large-scale kinematics and morphology, clouds, derived radar interpretation, precipitating systems, and precipitation measurement.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	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

Adding student learning outcomes and adding content outline. No substantive changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of core satellite systems used in professional meteorology
2	Conduct fundamental diagnostic and prognostic analysis from core satellite systems used in professional meteorology
3	Demonstrate knowledge of core radar systems used in professional meteorology
4	Conduct fundamental diagnostic and prognostic analysis from core radar systems used in professional meteorology
5	Demonstrate a cumulative application of the principles of satellite and radar technology for a given historical weather event via research

Content outline

#	Topic
1	History of atmospheric science remote science Fundamentals of remote sensing Electromagnetic radiation and governing laws

#	Topic
	Radiative transfer and governing laws Satellite orbits Atmospheric soundings Analysis of visible and infrared light Precipitation measurement Fundamentals of active microwave Conventional derived products Polarimetry and derived products Mesoscale analysis and intepretation Reanalysis data

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6007

Course Change Request

Date Submitted: 01/19/23 2:54 pm

Viewing: METR 422 : Physical Climatology

Formerly known as: GEOG 422

Last approved: 04/08/22 3:14 am

Last revision: 01/19/23 2:54 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:07 am Leslie North (leslie.north): Approved for GEO Approval

History

1. Apr 8, 2022 by Gregory Goodrich (gregory.goodrich)

Catalog Pages referencing this course

METR 422:
Department of Earth, Environmental, and Atmospheric Sciences

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited ~~Full Review~~		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	422
Department	Geography & Geology		
College	Science and Engineering		

Course title

Physical Climatology

Abbreviated course	PHYSICAL CLIMATOLOGY

title

Course description

Addresses the complexity of climactic processes at various spatial and temporal scales. Budgets of energy, water, and momentum, and soil-plant-atmosphere interactions at the earth's surface are explored from both a theoretical and practical point of view.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	C	UG		
And		MATH 237	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Revise existing student learning outcomes ~~METR 422 is a legacy course that predates the development of the Meteorology program curriculum.It was created as a 4 credit hour course and taught by a faculty member that is no longer employed by WKU.The course has not been taught since 2017, but we are reviving the course as a three hour course to better align it with other upper division Meteorology courses that are all three hours.Changing it to three hours will also make for easier scheduling.The content that will be removed to accommodate the reduction of 4 to 3 hours will be the case studies and other literature related to the research of the previous instructor.~~

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.

Since this is a course that unique to the Meteorology program, no outside departments/programs were consulted outside of EEAS.

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Describe the basic physical climate system components and their interactions through energy, mass, and momentum exchanges ~~Demonstrate knowledge of radiation transfer in the Earth-Atmosphere system~~
2	Describe global energy budgets of insolation and outgoing longwave radiation ~~Demonstrate knowledge of methods of estimating surface heat fluxes~~

#	Student Learning Outcomes
3	Demonstrate knowledge of radiation transfer in the Earth-Atmosphere system ~~methods of estimating near surface moisture and evapotranspiration fluxes~~
4	Demonstrate knowledge of methods ~~scale issues and modeling~~ of estimating surface heat fluxes ~~land-surface interactions~~
5	Demonstrate knowledge of methods of estimating near surface moisture and evapotranspiration fluxes
6	Demonstrate knowledge of scale issues and modeling of land-vegetation-atmosphere interactions

Content outline

#	Topic
1	Energy and mass balance: Radiation and distribution of energy through the earth-atmosphere system; water and water balance
2	Soil heat flux and soil temperature: Thermal properties of soil, diurnal and seasonal variation of soil heat flux and soil temperature
3	Near surface temperature and sensible and latent heat transfer: adiabatic process, thermal stability, near-surface thermal profile, and various approaches to estimate flux
4	Atmospheric and near surface moisture
5	Evapotranspiration flux
6	Soil moisture
7	Land-surface atmospheric interaction, scale issues, and modeling

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6008

Course Change Request

Date Submitted: 01/26/23 2:38 pm

Viewing: METR 425 : Field Methods in Severe Weather Analysis and Forecasting

Last revision: 01/26/23 2:38 pm

Changes proposed by: grg07567

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:07 am
   Leslie North
   (leslie.north):
   Approved for GEO
   Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	425
Department	Geography & Geology		
College	Science and Engineering		

Course title

Field Methods in Severe Weather Analysis and Forecasting

Abbreviated course title	FIELD METHODS SEVERE WEATHER

Course description

Provides an intensive, comprehensive field-based weather analysis and forecasting experience that focuses on all forms of severe weather, including tornadoes. Students will travel across the Great Plains collecting and analyzing weather data, predicting severe convective thunderstorms, and formulating logistical plans to document forecast outcomes each day. Students will also have the opportunity for applied learning approaches in leadership, collaborative team-building, and professional aptitude development.

Credit hours 4

Repeatable

Yes

Number of repeats 2

For maximum credits 8

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	METR 324	D	UG		
And		POI	Y		)	

Corequisites

METR 424 - Weather Analysis and Forecasting

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Develop proficiency in diagnostic and prognostic weather analysis
2	Apply existing meteorological understanding to real-world/real-time severe weather forecasting events
3	Develop proficiency in severe weather analysis and forecasting
4	Enhance written and oral communication skills
5	Develop and enhance attributes of leadership, collaborative learning, and professional aptitude

Content outline

#	Topic
1	Two-week field course with a daily routine of students developing severe weather forecasts, developing travel logistics to document forecast outcomes, and maintaining a collection of weather data and

#	Topic
	analysis content.

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 9318

Course Change Request

Date Submitted: 01/19/23 3:21 pm

Viewing: METR 430 : Meteorological Computing

Last revision: 01/19/23 3:21 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:07 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	430
Department	Geography & Geology		
College	Science and Engineering		

Course title

Meteorological Computing

Abbreviated course title	METEOROLOGICAL COMPUTING

Course description

Introduction to Python-based skills for meteorological data manipulation, processing, and visualization. Mainstream meteorological data sources and formats (e.g., ASCII, CSV, GRIB, NetCDF) will be involved in

weather analysis and map generation.

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
Lecture

CIP Code 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	D	UG		
And		CS 170	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

Adding student learning outcomes and content outline. No substantive changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Understand and process mainstream meteorological data sources and file formats
2	Create programs in python language to process data and perform basic statistical analysis
3	Create various plots to visualize data and analyze results
4	Compute derived meteorological fields
5	Create geographical weather maps that are widely used by meteorologists and geoscientists
6	Conduct a research project that applies learned skills in data acquisition, data processing, and visualization

Content outline

#	Topic
1	Basic Linux system commands and file organization Python environments and data types Flow controls: if-else, continue, break, loops Python data types Arrays Data input/output Exploring basic data formatting Matplotlib basics

#	Topic
	Storm data applications Pyplot More data formats: GRIB, NetCDF, HDF Cartopy Weather contour analysis Data processing and statistical analysis Skew-T and other thermodynamic diagrams Remote Sensing data

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 9319

Course Change Request

Date Submitted: 01/26/23 7:25 pm

Viewing: METR 431 : Dynamic Meteorology I

Last revision: 01/26/23 7:25 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	431
Department	Geography & Geology		
College	Science and Engineering		

Course title

Dynamic Meteorology I

Abbreviated course title	DYNAMIC METEOROLOGY I

Course description

Introduction to large-scale dynamics of the Earth's troposphere focusing on fundamental topics, the basic governing equations of motion in the atmosphere, and dry thermodynamics.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	C	UG		
And		MATH 237	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the horizontal and vertical equations of motion
2	Conduct scale analysis on the horizontal and vertical equations of motion
3	Describe basic atmospheric motions in terms of conservation laws
4	Demonstrate knowledge of dry thermodynamics in the atmosphere

Content outline

#	Topic
1	Vector calculus review Pressure gradient force Gravity Friction Centrifugal/centripetal force Coriolis force Conservation of mass, momentum, and energy Thermodynamics of the dry atmosphere

Student expectations and

requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6011

Course Change Request

Date Submitted: 01/19/23 2:43 pm

Viewing: METR 432 : Synoptic Meteorology

Last revision: 01/19/23 2:43 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences

Meteorology (METR)

In Workflow

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

Approval Path

1. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	432
Department	Geography & Geology		
College	Science and Engineering		

Course title

Synoptic Meteorology

Abbreviated course title: SYNOPTIC METEOROLOGY

Course description

Addresses the analysis and prediction of large-scale weather systems, such as extra-tropical cyclones, fronts and jet streams through the application of fundamental dynamical concepts of meteorology.

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/Lab

CIP Code 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	C	UG		
And		MATH 237	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and adding content outline. No substantive changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the diagnostic quasi-geostrophic omega equation as it relates to the vertical motion field
2	Apply knowledge of the diagnostic quasi-geostrophic omega equation via routine synoptic-scale weather analysis and forecasting
3	Demonstrate knowledge of the prognostic quasi-geostrophic height tendency equation as it relates to large-scale circulation morphology
4	Apply knowledge of the prognostic quasi-geostrophic height tendency equation via routine synoptic-scale weather analysis and forecasting
5	Demonstrate a cumulative application of the principles of Quasi-Geostrophic Theory for a given historical weather event via research
6	Demonstrate proficiency in oral and written communication skills via daily forecast discussions and final research presentation

Content outline

#	Topic
1	Introduction to Synoptic Meteorology Forecasting and Map Discussions Tools: IDV, AWIPS, GIS, Python

#	Topic
	Numerical Weather Prediction Vorticity equation Thermodynamic equation Quasi-Geostrophic equation Forcing of vertical motion Evolution and motion of mid-tropospheric waves Cyclogenesis: Barotropic vs baroclinic wave development Ageostrophic motion: Jet stream circulation Frontal kinematics Tropopause undulations Teleconnections Severe and Winter weather

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6012

Course Change Request

Date Submitted: 01/26/23 7:30 pm

Viewing: METR 433 : Dynamic Meteorology II

Last revision: 01/26/23 7:30 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	433
Department	Geography & Geology		
College	Science and Engineering		

Course title

Dynamic Meteorology II

Abbreviated course title	DYNAMIC METEOROLOGY II

Course description

Analysis of phenomena related to large scale dynamics of the Earth's troposphere including thermodynamics, elementary applications of the basic equations, and circulation and vorticity.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 431	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of dry thermodynamics in the atmosphere
2	Demonstrate knowledge of moist thermodynamics in the atmosphere
3	Describe applications of the basic equations of motion
4	Demonstrate knowledge of circulation and vorticity

Content outline

#	Topic
1	Thermodynamic energy equation Thermodynamics of a dry atmosphere Thermodynamics of a moist atmosphere Balanced flow Inertial flow Cyclostrophic flow Gradient flow Geostrophic flow Circulation theorems and vorticity Stretching and tilting Potential vorticity

Student

expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6013

Course Change Request

Date Submitted: 01/19/23 2:49 pm

Viewing: METR 437 : Mesoscale Meteorology

Last revision: 01/19/23 2:49 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	437
Department	Geography & Geology		
College	Science and Engineering		

Course title

Mesoscale Meteorology

Abbreviated course title	MESOSCALE METEOROLOGY

Course description

Addresses the analysis and prediction of convective and mesoscale phenomena, such as mesoscale convective systems, severe thunderstorms, tornadoes and hurricanes.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 432	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Added student learning outcomes and content outline. No substantive changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of key diagnostic sub-synoptic processes that govern the vertical motion field on the sub-synoptic scale
2	Apply knowledge of diagnostic sub-synoptic analysis via routine mesoscale weather analysis and forecasting
3	Demonstrate fundamental knowledge of core mesoscale analysis tools used in professional meteorology
4	Apply knowledge of core mesoscale analysis tools via routine mesoscale weather analysis and forecasting
5	Demonstrate a cumulative application of the principles of mesoscale analysis for a given historical weather event via research
6	Demonstrate proficiency in oral and written communication skills via daily forecast discussions and final research presentation

Content outline

#	Topic
1	Tools: IDV, RAOB, Bufkit, Digital Atmosphere Workshop Soundings and hodograph analysis Defining Mesoscale classification

#	Topic
	Active microwave analysis Radar applications Lake effect snow Mesoscale banded precipitation Cold-air damming Severe convective storms Extratropical synoptic-scale processes Severe convection Isolated convection Mesoscale convective systems and complexes Convectively driven high winds Non-convectively driven high winds Heavy precipitation Flash flood forecasting

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6014

Course Change Request

Date Submitted: 01/26/23 7:38 pm

Viewing: METR 438 : Physical Meteorology

Last revision: 01/26/23 7:38 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:09 am Leslie North (leslie.north): Approved for GEO Approval

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	438
Department	Geography & Geology		
College	Science and Engineering		

Course title

Physical Meteorology

Abbreviated course title	PHYSICAL METEOROLOGY

Course description

Addresses the microscopic processes related to cloud formation, radiative transfer, precipitation processes and dry and moist thermodynamics.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 431	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Describe radiative processes in the atmosphere including atmospheric scattering, absorption, emission, and transmission
2	Demonstrate knowledge of basic laws of radiation and quantitative description of radiative energy
3	Describe turbulent flow and transport of fluxes in the atmospheric boundary layer
4	Demonstrate knowledge of surface energy fluxes and global energy balance at surface
5	Describe the structure of the boundary layer and its evolution
6	Demonstrate knowledge of cloud microphysics processes that lead to cloud droplet nucleation and growth in warm clouds
7	Describe the microphysics processes of ice nucleation and cloud droplet growth in cold clouds

Content outline

#	Topic
1	Atmospheric radiation Radiative transfer Blackbody radiation Energy balance Boundary layer processes Atmospheric emission and transmission Cloud microphysics

#	Topic
	Growth of warm and cold cloud droplets Precipitation processes

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6015

Course Change Request

Date Submitted: 01/26/23 3:11 pm

Viewing: METR 439 : Atmospheric Modeling

Last revision: 01/26/23 3:11 pm

Changes proposed by: grg07567

In Workflow

1. GEO Approval
2. SC Dean
3. Provost
4. Course Inventory

Approval Path

1. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	439
Department	Geography & Geology		
College	Science and Engineering		

Course title

Atmospheric Modeling

Abbreviated course title	ATMOSPHERIC MODELING

Course description

An introduction to numerical weather and climate modeling techniques and models, with focus on modeling fundamentals, including dynamics, physical parameterizations, grids and resolutions, model structures and

components. Includes hands-on experience with designing numerical experiments, configuring and running model simulations, post-processing model outputs, and visualization.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		METR 324	C	UG		
And		CS 170	C	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Adding student learning outcomes and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the basic concepts of numerical weather models, including the basic set of equations, difference methods for numerically solving the equations, physical parameterizations, grids and resolutions, initial and boundary conditions, and model integration;
2	Develop skills within a UNIX/Linux computing environment to configure and carry out modeling experiments
3	Develop basic skills to visualize model output for analysis and verification
4	Demonstrate knowledge and skills of weather modeling by conducting a full process of a weather event simulation

Content outline

#	Topic
1	Python review Numerical weather prediction Computing methods for solving equations of motion Physical parameterization

#	Topic
	Grid resolution UNIX/Linux computing environments Visualizing model output Weather simulations

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6016

Course Change Request

Date Submitted: 01/26/23 7:46 pm

Viewing: METR 460 : Climate Teleconnections

Last revision: 01/26/23 7:46 pm

Changes proposed by: grg07567

In Workflow

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

Approval Path

1. 01/27/23 10:09 am Leslie North (leslie.north): Approved for GEO Approval

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences
Meteorology (METR)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type	Expedited		
Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	460
Department	Geography & Geology		
College	Science and Engineering		

Course title

Climate Teleconnections

Abbreviated course title	CLIMATE TELECONNECTIONS

Course description

Analysis of the climate impacts and physical mechanisms of atmospheric and oceanic teleconnections that commonly affect weather patterns in the northern hemisphere. Note: Permission of instructor may be required.

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 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	METR 322	D	UG		
Or		METR 324	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

Adding student learning outcomes and content outline. No other changes were made.

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

Are you seeking Colonnade approval for this course?

No

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate knowledge of the statistics used to derive and analyze climate teleconnections
2	Describe physical mechanisms that control low frequency variability of the climate system
3	Demonstrate proficiency at correlating common weather variables with oceanic and atmospheric teleconnections
4	Describe how climate teleconnections can be used in seasonal forecasting

Content outline

#	Topic
1	Overview of atmospheric circulation Review of correlation, regression, and principal components analysis History of teleconnections Oceanic teleconnections Atmospheric teleconnections Snow cover as a teleconnection Long range forecasting techniques Climate teleconnections in a changing climate

Student

expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 6017

Program Change Request

Date Submitted: 01/20/23 9:17 am

Viewing: 508 : Agriculture, Bachelor of Science

Last approved: 01/10/23 3:10 pm

Last edit: 01/20/23 9:17 am

Changes proposed by: wll99339

Catalog Pages
Using this Program
Agriculture, Bachelor of Science (508)

Proposed Action

In Workflow

1. **AGRI Approval**
2. **SC Dean**
3. SC Curriculum Committee
4. Professional Education Council
5. Undergraduate Curriculum Committee
6. University Senate
7. Provost
8. Program Inventory

Approval Path

1. 01/20/23 12:39 pm Fred DeGraves (fred.degraves): Approved for AGRI Approval

History

1. May 20, 2021 by Rheanna Plemons (rheanna.plemons)
2. May 25, 2021 by Rheanna Plemons (rheanna.plemons)
3. Jun 10, 2021 by Jessica Dorris (jessica.dorris)
4. Jul 16, 2021 by Jessica Dorris (jessica.dorris)
5. Jul 29, 2021 by Jessica Dorris (jessica.dorris)
6. Apr 11, 2022 by Jessica Dorris

(jessica.dorris)
7. Jan 10, 2023 by Jessica Dorris (jessica.dorris)
8. Jan 10, 2023 by Jessica Dorris (jessica.dorris)

Active

Contact Person

Name	Email	Phone
Todd Willian	todd.willian@wku.edu	(270) 745-5969

Term of Implementation	2023-2024
Program Reference Number	508
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	Agriculture
College	Science and Engineering
Program Name (eg. Biology)	Agriculture, Bachelor of Science

Will this program have concentrations?

Yes

Concentrations

Concentrations

Agribusiness (AGBU)
Agriculture Education (AGED)
Agronomy Plant (AGPS)
Agronomy Soil (AGSS)
Animal Science (AGAS)
Horse Science (AGHS)
Dairy Science (AGDS)
General Agriculture (AGGA)
Horticulture (AGHO)
Turf & Golf Course Management (AGTG)

Agriculture Systems (AGSY)

CIP Code	01.0000 - Agriculture, General.
Will this program lead to teacher certification?	Yes ~~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)

The major in agriculture (508) consists of several concentrations allowing students to specialize in areas of interest such as agronomy, agribusiness, agricultural education, agricultural systems, animal science, dairy science, horticulture, horse science, and turf and golf course management.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (50-80 hours)

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 6, 2022 10:48am

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at www.wku.edu/registrar/degree_certification.php.
Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: https://www.wku.edu/colonnade/colonnaderequirements.php.

This major in agriculture requires a minimum of 50-80 semester hours in agriculture and leads to a Bachelor of Science degree. Electives are chosen from agriculture courses focusing on a concentration, when approved by an assigned advisor, complete the minimum total of 50-80 semester hours in agriculture. With the exception of the General Agriculture option, no ~~No~~ other minor or major is required for the ~~the~~ student following the ~~the~~ curriculum for this major in agriculture. At least half of the semester hours in the major must be in courses numbered 300 or above. All students must take the following courses outside of the major:

Required Courses Outside of the Major

Mathematics Course		
MATH 115	Applied College Algebra (or higher) [1]	3
Chemistry Courses		

Select two of the following:		6
CHEM 105	Fundamentals of General Chemistry	
CHEM 107	Fundamentals of Organic Chemistry	
CHEM 120	College Chemistry I	
CHEM 222	College Chemistry II	
Chemistry Labs		
Select two hours of the following:		2
CHEM 106	Fundamentals of General Chemistry Laboratory	
CHEM 108	Fundamentals of Organic Chemistry Laboratory	
CHEM 121	College Chemistry I Laboratory	
CHEM 223	College Chemistry II Laboratory	
Biology Course and Lab [2]		
BIOL 120	Biological Concepts: Cells Metabolism and Genetics	3
BIOL 121	Biological Concepts: Cells, Metabolism, and Genetics Lab	1
Total Hours		15

[1] Students focusing in Pre-Veterinary Medicine must take MATH 116 or higher.

[2] Students pursuing the Horticulture Concentration may take BIOL 120 and BIOL 121 or BIOL 122 and BIOL 123.

The following courses are required for each concentration:

Agribusiness Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	

AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Agribusiness Courses		
AGEC 261	Agricultural Accounting	3
MGT 210	Organization and Management	3
MKT 220	Basic Marketing Concepts	3
AGEC 361	Farm Management	3
AGEC 362	Agricultural Marketing	3
AGEC 463	Agriculture Finance	3
Agribusiness Elective		
Select one of the following:		3
AGEC 366	Agricultural Sales and Services	
AGEC 460	Agricultural Policy	
AGEC 461	Advanced Farm Management	
AGEC 468	World Food Development	
AGRI 369	Cooperative Education in Agriculture II	
Total Hours		50

Agricultural Education Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGMC 171	Introduction to Agricultural Mechanization Laboratory	1
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3

or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 494	Contemporary Agricultural Issues	3
Teacher Certification Requirements		
AGED 250	Introduction to Teacher Education in Agriculture [1]	3
or EDU 250	Discover Teaching: Introduction to Teacher Education	
PSY 310	Educational Psychology: Development and Learning [1]	3
EDU 260	Classroom Assessment	3
EDU 350	Student Diversity and Differentiation	3
EDU 360	Behavior and Classroom Management in Education	3
EDU 489	Student Teaching Seminar	2,3
AGED 200	Foundations of Agricultural Education	1
AGED 300	Youth Development for Agricultural Educators	3
AGED 470	Methods of Teaching in Agricultural Education	3
AGED 471	Organization and Planning in Agricultural Education	3
AGMC 371	Agricultural Mechanics	1
AGMC 372	Agricultural Mechanics Laboratory	2
HORT 316	Greenhouse Maintenance and Operation	2
HORT 317	Greenhouse Maintenance and Operation Laboratory	1
SPED 330	Introduction to Exceptional Education: Diversity in Learning	3
AGRI 398	Seminar	1
SEC 490	Student Teaching	10
Total Hours		76-77

1 Courses require a grade of C or better.

Agriculture Systems Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Agriculture Systems Courses		
AGMC 172 & AGMC 173	Lawn and Garden Equipment and Lawn and Garden Equipment Laboratory	3
AGMC 373 & AGMC 374	Farm Power—Mechanical and Machinery and Farm Power—Mechanical and Machinery Laboratory	3
AGMC 377 & AGMC 378	Farm Machinery and Farm Machinery Laboratory	3
AGMC 425	Applied Hydraulics and Pneumatics	3
AGEC 366	Agricultural Sales and Services	3
MFGE 227	Introduction to Manufacturing Methods	3
Agriculture Systems Elective		
Select 3 credit hours from any AGEC, AGED, AGMC, AGRI, AGRO, ANSC, or HORT course		3
Total Hours		50

Agronomy (Plant Science) Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following courses:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Agronomy – Plant Science Courses		
Select 18 hours from following courses:		18
AGRO 310	Pest Management	
AGRO 352	Soil Fertility and Fertilizers	
AGEC 361	Farm Management	
AGRI 355	Biotechnology in Agriculture	
AGRO 409	Weed Science	
AGRO 410	Weed Science Laboratory	
AGRO 414	Crop Improvement	
AGRO 418	Plant Pathology	
AGRO 420	Forage Crops	
AGRO 421	Forage Crops Laboratory	
AGRO 422	Field Crops	
Agronomy Elective		

Select one of the following courses:		3
AGRI 315	Water in Food Production	
AGRO 452	Soil Microbiology	
AGRO 454	Soil Management and Conservation	
AGRO 457	Soil Formation, Classification and Mapping	
AGRO 458	Soil Formation, Classification and Mapping Laboratory	
AGRI 493	Sustainable Agriculture	
Required Laboratory Courses		
AGRO 351	Soils Laboratory	1
AGRO 111	Plant Science Laboratory	1
Total Hours		52

Agronomy (Soil Science) Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Required Agronomy Courses		

AGRO 351	Soils Laboratory	1
~~Select four of the following courses:~~		~~10-11~~
Select 12 credit hours from the following courses:		12
AGRO 352	Soil Fertility and Fertilizers	
AGRO 452	Soil Microbiology	
AGRO 454	Soil Management and Conservation	
~~AGRO 455~~ ~~& AGRO 456~~	~~Soil Chemistry~~ ~~and Soil Chemistry Laboratory~~	
AGRO 457 & AGRO 458	Soil Formation, Classification and Mapping and Soil Formation, Classification and Mapping Laboratory	
AGRO 459	Techniques in Physical Soil Description	
Select two of the following courses:		6
AGRO 310	Pest Management	
AGRO 409 & AGRO 410	Weed Science and Weed Science Laboratory	
AGRO 414	Crop Improvement	
AGRO 420 & AGRO 421	Forage Crops and Forage Crops Laboratory	
AGRO 422	Field Crops	
AGRI 493	Sustainable Agriculture	
Total Hours		48

Animal Science Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3

AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Beef or Swine Courses		
Select one of the following:		3
ANSC 442 & ANSC 443	Beef Production and Beef Production Laboratory	
ANSC 444 & ANSC 445	Swine Production and Swine Production Laboratory	
Animal Science Courses		
ANSC 141	Introduction to Animal Science Laboratory	1
ANSC 240	Livestock Management	2
ANSC 241	Livestock Management Laboratory	1
ANSC 338	Introductory Livestock Evaluation and Selection	3
ANSC 340	Meats and Meat Products	3
ANSC 344	Physiology and Anatomy of Domestic Animals	3
ANSC 347	Animal Pathology	3
ANSC 437	Physiology of Reproduction in Domestic Animals	2
ANSC 438	Physiology of Reproduction in Domestic Animal Laboratory	1
ANSC 446	Animal Breeding	2
ANSC 447	Animal Breeding Laboratory	1
ANSC 448	Animal Feeds and Feeding Practices	4
Total Hours		58

Dairy Science Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3

AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Dairy Science Courses		
ANSC 141	Introduction to Animal Science Laboratory	1
ANSC 240	Livestock Management	2
ANSC 241	Livestock Management Laboratory	1
ANSC 338	Introductory Livestock Evaluation and Selection	3
ANSC 340	Meats and Meat Products	3
ANSC 344	Physiology and Anatomy of Domestic Animals	3
ANSC 347	Animal Pathology	3
ANSC 431	Dairy Production	2
ANSC 432	Dairy Production Laboratory	1
ANSC 437	Physiology of Reproduction in Domestic Animals	2
ANSC 438	Physiology of Reproduction in Domestic Animal Laboratory	1
ANSC 446	Animal Breeding	2
ANSC 447	Animal Breeding Laboratory	1
ANSC 448	Animal Feeds and Feeding Practices	4
Total Hours		58

General Agriculture Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Agriculture Courses		
~~Select 21 hours in any AGEC, AGED, AGMC, AGRI, AGRO, ANSC, or HORT courses~~		~~21~~
Select 7 hours of 300-400 level electives from any AGEC, AGED, AGMC, AGRI, AGRO, ANSC, or HORT courses		7
Select 12 hours of other AGEC, AGED, AGMC, AGRI, AGRO, ANSC, HORT electives; at least 6 hrs must be 300-400 level [1]		12
Total Hours		48

[1] Students may pursue a minor in lieu of the 12 hours of Agriculture electives.

Horticulture Concentration

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3

ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Horticulture Courses		
HORT 301	Introduction to Landscape Plants	2
HORT 302	Introduction to Landscape Plants Laboratory	1
HORT 313	Turfgrass Management	3
HORT 316	Greenhouse Maintenance and Operation	2
HORT 317	Greenhouse Maintenance and Operation Laboratory	1
HORT 407	Plant Propagation	2
HORT 408	Plant Propagation Laboratory	1
AGRI 369	Cooperative Education in Agriculture II	3
AGRO 351	Soils Laboratory	1
Electives		
Any HORT, AGRO, AGEC, or AGRI courses		5
Total Hours		50

Horse Science Concentration

Basic Agriculture Courses		

AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Horse Science Courses		
ANSC 141	Introduction to Animal Science Laboratory	1
ANSC 240	Livestock Management	2
ANSC 241	Livestock Management Laboratory	1
ANSC 330	Horse Production	2
ANSC 331	Horse Production Laboratory	1
ANSC 338	Introductory Livestock Evaluation and Selection	3
ANSC 340	Meats and Meat Products	3
ANSC 344	Physiology and Anatomy of Domestic Animals	3
ANSC 347	Animal Pathology	3
ANSC 437	Physiology of Reproduction in Domestic Animals	2
ANSC 438	Physiology of Reproduction in Domestic Animal Laboratory	1
ANSC 446	Animal Breeding	2
ANSC 447	Animal Breeding Laboratory	1
ANSC 448	Animal Feeds and Feeding Practices	4

Total Hours		58

Turf and Golf Course Management

Basic Agriculture Courses		
AGRO 110	Introduction to Plant Science	3
ANSC 140	Introduction to Animal Science	3
AGEC 160	Introduction to Agribusiness and Agricultural Entrepreneurship	3
AGMC 170 & AGMC 171	Introduction to Agricultural Mechanization and Introduction to Agricultural Mechanization Laboratory	3
AGRI 175	University Experience – Agriculture	1
AGMC 176	Agriculture Safety	2
AGRI 291	Introduction to Data Analysis and Interpretation	3
or AGRI 491	Data Analysis and Interpretation	
Select one of the following:		3
AGRO 320	Crop Physiology	
ANSC 345	Principles of Animal Nutrition	
AGEC 360	Agricultural Economics	
AGMC 326	Precision Agriculture	
AGRO 350	Soils	3
AGRI 397	Agriculture Career Planning	1
AGRI 398	Seminar	1
AGRI 494	Contemporary Agricultural Issues	3
Turf and Golf Course Management Courses		
HORT 313	Turfgrass Management	3
AGMC 272	Turf Equipment Management and Operation	2
AGMC 273	Turf Equipment Management and Operation Laboratory	1
AGMC 392	Turf Irrigation	2
AGMC 393	Turf Irrigation Laboratory	1
AGRI 369	Cooperative Education in Agriculture II	3
Select 9 hours from the following:		9
HORT 301	Introduction to Landscape Plants	
HORT 302	Introduction to Landscape Plants Laboratory	
HORT 304	Landscape Maintenance	

HORT 305	Landscape Maintenance Laboratory
HORT 340	Greenhouse Crop Production
HORT 407	Plant Propagation
HORT 408	Plant Propagation Laboratory
HORT 475	Selected Topics in Agriculture
AGEC 260	Golf Course Management
AGMC 172	Lawn and Garden Equipment
AGMC 173	Lawn and Garden Equipment Laboratory
AGMC 270	Turf Mowing Equipment Maintenance
AGMC 271	Turf Mowing Equipment Maintenance Laboratory
AGMC 371	Agricultural Mechanics
AGMC 372	Agricultural Mechanics Laboratory
AGRO 310	Pest Management
AGRO 351	Soils Laboratory
AGRO 352	Soil Fertility and Fertilizers
AGRO 409	Weed Science
AGRO 410	Weed Science Laboratory
AGRO 418	Plant Pathology
Total Hours	50

4-Year Plan

Finish in Four Plans

Agribusiness

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGRI 108	3
AGEC 160	3	AGRO 110	3
CHEM 105	4	CHEM 107	4
& CHEM 106		& CHEM 108	
AGRI 175	1	Colonnade - Arts & Humanities	3
AGMC 176	2		
	16		16

Second Year

Fall	Hours	Spring	Hours

First Year

Fall	Hours	Spring	Hours
ENG 200	3	World Language Requirement or General Elective	3
AGMC 170 & AGMC 171	3	AGRI 291	3
BIOL 120 & BIOL 121	4	HIST 101 or HIST 102	3
ECON 202	3	MGT 210	3
AGEC 261	3	MKT 220	3
	16		15

Third Year

Fall	Hours	Spring	Hours
ENG 300	3	AGEC 468 (or other AGEC Elective)	3
AGRO 350	3	ANSC 140	3
AGEC 360	3	AGEC 361	3
Colonnade - Social & Cultural	3	Agriculture Upper-Division Elective	3
General Elective	3	Colonnade - Local to Global	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
AGEC 362	3	AGRI 398	1
AGEC 460 (or other AGEC Elective)	3	AGEC 463	3
AGRI 494	3	Agriculture Upper-Division Elective	3
AGRI 397	1	Agriculture Upper-Division Elective	3
Colonnade - Systems	3	Agriculture Upper-Division Elective	3
		Agriculture Upper-Division Elective	1
	13		14

Total Hours 120

Agriculture Systems

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGEC 160	3
CHEM 105 & CHEM 106	4	ANSC 140	3
AGMC 170 & AGMC 171	3	CHEM 107 & CHEM 108	4
AGRI 175	1	HIST 101 or HIST 102	3
AGMC 176	2		
	16		16

Second Year

Fall	Hours	Spring	Hours
ENG 200	3	AGRI 291	3
AGRO 110	3	AGMC 326	3

First Year

Fall	Hours	Spring	Hours
BIOL 120 & BIOL 121	4	Colonnade - Social & Behavioral Science	3
AGMC 172 & AGMC 173	3	Colonnade - Arts & Humanities	3
AGRO 350 & AGRO 351	4	World Language Requirement, if needed, or General Elective	3
	17		15

Third Year

Fall	Hours	Spring	Hours
MFGE 227	3	AGRI 398	1
AGMC 425	3	AGEC 366	3
ENG 300	3	AGMC 377 & AGMC 378	3
Colonnade - Social & Cultural	3	AGRI 397	1
Agriculture Elective	3	Agriculture Elective	3
		Agriculture Elective	3
	15		14

Fourth Year

Fall	Hours	Spring	Hours
AGRI 369	1-4	AGRI 494	3
Agriculture Elective	3	AGMC 373 & AGMC 374	3
Agriculture Elective	3	Agriculture Elective	3
Agriculture Elective	3	Colonnade - Systems	3
Colonnade - Local to Global	3		
	15		12

Total Hours 120

Agricultural Education

First Year

Fall	Hours	Spring	Hours
ENG 100	3	ENG 200	3
Colonnade - Arts & Humanities	3	AGED 250	3
ANSC 140	3	AGRO 110	3
AGRI 175	1	COMM 145	3
AGED 200	1	AGMC 170 & AGMC 171	3
Colonnade - Social & Behavioral	3		
AGMC 176	2		
	16		15

Second Year

Fall	Hours	Spring	Hours
MATH 115 (or higher)	3	AGED 300	3
AGRI 398	1	AGED 489	1-3

First Year

Fall	Hours	Spring	Hours
EDU 260	3	AGEC 160	3
HORT 316 & HORT 317	3	CHEM 107 & CHEM 108	4
CHEM 105 & CHEM 106	4	AGRO 320, ANSC 345, AGEC 360, or AGMC 326	3
World Language Requirement, if needed, or General Elective	3		
	17		16

Third Year

Fall	Hours	Spring	Hours
HIST 101 or HIST 102	3	Agriculture Elective	3
PSY 310	3	SPED 330	3
AGRI 291	3	AGRO 350	3
ENG 300	3	EDU 360	3
BIOL 120 & BIOL 121	4	AGED 471	3
EDU 350	3	Colonnade - Social & Cultural	3
	19		18

Fourth Year

Fall	Hours	Spring	Hours
AGED 470	3	EDU 489	2-3
Colonnade - Systems	3	SEC 490	5-10
AGMC 371 & AGMC 372	3		
AGRI 397	1		
AGRI 494	3		
Colonnade - Local to Global	3		
	16		13

Total Hours 130

Agronomy - Plant Science

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	CHEM 107 & CHEM 108	4
CHEM 105 & CHEM 106	4	AGEC 160	3
AGRO 110 & AGRO 111	4	ANSC 140	3
AGRI 175	1	HIST 101 or HIST 102	3
AGMC 176	2		
	17		16

Second Year

First Year

Fall	Hours	Spring	Hours
Fall	Hours	Spring	Hours
ENG 200	3	World Language Requirement or General Elective	3
AGMC 170 & AGMC 171	3	AGRO 310	3
BIOL 120 & BIOL 121	4	AGRI 291	3
Colonnade - Social & Behavioral Sciences	3	AGRO 320	3
AGRO 350 & AGRO 351	4	AGRI 397	1
		Colonnade - Arts & Humanities	3
	17		16

Third Year

Fall	Hours	Spring	Hours
ENG 300	3	Agriculture upper-division Elective	3
Colonnade - Social & Cultural	3	AGRI 398	1
AGMC 326	3	AGRO 422	3
AGRO 352	3	AGRO 452	3
AGRO 409 & AGRO 410	3	Agriculture upper-division Elective	3
	15		13

Fourth Year

Fall	Hours	Spring	Hours
Colonnade - Local to Global	3	AGRI 494	3
AGRO 418	3	AGRI 355	3
AGRI 369	2	Agriculture upper-division Elective	3
AGRI 369	3	Colonnade - Systems	3
AGRI 493	3		
	14		12

Total Hours 120

Agronomy - Soil Science

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
CHEM 105 & CHEM 106	4	AGRI 108	3
AGRO 110	3	CHEM 107 & CHEM 108	4
AGRI 175	1	MATH 115	3
AGMC 170 & AGMC 171	3	AGMC 176	2
	14		15

Second Year

First Year

Fall	Hours	Spring	Hours
Fall	Hours	Spring	Hours
ENG 200	3	ANSC 140	3
BIOL 120 & BIOL 121	4	AGRI 291	3
Colonnade - Social & Behavioral Sciences	3	AGRO 320	3
Colonnade - Arts & Humanities	3	AGRI 397	1
AGRO 350 & AGRO 351	4	HIST 101 or HIST 102	3
		World Language Requirement or General Elective	3
	17		16

Third Year

Fall	Hours	Spring	Hours
ENG 300	3	AGRI 398	1
~~Colonnade - Social & Cultural~~	~~3~~	AGRO 454	3
AGRO 352	3	Agronomy Plant Elective	3
AGRO 459	3	Colonnade - Local to Global	3
AGEC 160	3	Agriculture upper-division Elective	3
Agronomy Plant Elective	3	COLONNADE - SOCIAL AND CULTURAL	3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
AGRO 457 & AGRO 458	3	AGRI 494	3
Colonnade - Systems	3	AGRO 452	3
Agriculture Elective	3	Agriculture Elective	3
Agriculture Elective	3	Agriculture Elective	3
Agriculture Elective	3	~~Agriculture Elective~~	~~3~~
	15		12

Total Hours 120

Animal Science

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGRI 108	3
CHEM 105 & CHEM 106	4	AGRO 110	3
ANSC 140 & ANSC 141	4	CHEM 107 & CHEM 108	4
AGRI 175	1	AGMC 176	2
	15		15

Second Year

Fall	Hours	Spring	Hours

First Year

Fall	Hours	Spring	Hours
ENG 200	3	World Language Requirement or General Elective	3
AGMC 170 & AGMC 171	3	AGRI or ANSC Elective	3
ANSC 240 & ANSC 241	3	AGRI 291	3
BIOL 120 & BIOL 121	4	Colonnade - Arts & Humanities	3
Colonnade - Social & Behavioral Sciences	3	ENG 300	3
	16		15

Third Year

Fall	Hours	Spring	Hours
HIST 101 or HIST 102	3	AGRI 398	1
AGRO 350	3	ANSC 446 & ANSC 447 (or ANSC Production Course or ANSC Elective)	3
ANSC 345	3	AGEC 160	3
ANSC 340 (or ANSC Production Course or ANSC Elective)	3	Colonnade - Social & Cultural	3
AGRI or ANSC Elective	3	Colonnade - Local to Global	3
		ANSC Elective	3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
AGRI 397	1	AGRI 494	3
ANSC 437	2	ANSC 446 & ANSC 447 (or ANSC Production Course or ANSC Elective)	3
ANSC 340 (or ANSC Production Course or ANSC Elective)	3	ANSC 448	4
Colonnade - Systems	3	Animal Science Elective	3
AGRI or ANSC Elective	3	Animal Science Elective	3
	12		16

Total Hours 120

General Agriculture

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGRI 108	3
ANSC 140	3	AGRO 110	3
CHEM 105 & CHEM 106	4	CHEM 107 & CHEM 108	4
AGRI 175	1	Colonnade - Arts & Humanities	3

First Year

Fall	Hours	Spring	Hours
AGMC 176	2		
	16		16

Second Year

Fall	Hours	Spring	Hours
ENG 200	3	World Language Requirement or General Elective	3
AGEC 160	3	AGRI 291	3
BIOL 120 & BIOL 121	4	HIST 101 or HIST 102	3
Colonnade - Social & Behavioral	3	ENG 300	3
		AGRO 320, ANSC 345, AGEC 360, or AGMC 326	3
	13		15

Third Year

Fall	Hours	Spring	Hours
Colonnade - Social & Cultural	3	AGRI 397	1
AGRO 350	3	ANSC Elective	3
AGMC 170 & AGMC 171	3	AGRO or HORT Elective	3
Animal Sciences Elective	3	AGEC Elective	3
Agriculture Elective	3	Agriculture Elective	3
		AGMC Elective	3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
AGRI 398	1	AGRI 494	3
AGEC Elective	3	AGRO or HORT Elective	3
Agriculture Elective	3	Agriculture Elective	3
Agriculture Elective	3	Agriculture Elective	3
Agriculture Elective	1	Colonnade - Systems	3
Colonnade - Local to Global	3		
	14		15

Total Hours 120

Horticulture

First Year

Fall	Hours	Spring	Hours
AGRO 110 & AGRO 111	4	COMM 145	3
MATH 115	3	ANSC 140	3
Colonnade - Arts & Humanities	3	AGMC 170 & AGMC 171	3
ENG 100	3	CHEM 105 & CHEM 106	4

First Year

Fall	Hours	Spring	Hours
AGRI 175	1	World Language Requirement or General Elective	3
AGMC 176	2		
	16		16

Second Year

Fall	Hours	Spring	Hours
CHEM 107 & CHEM 108	4	AGRO 320	3
BIOL 122 & BIOL 123	4	AGRO 350 & AGRO 351	4
HORT 301 & HORT 302	3	Horticulture Elective	3
HIST 101 or HIST 102	3	ENG 200	3
Colonnade - Social & Behavioral	3		
	17		13

Third Year

Fall	Hours	Spring	Hours
HORT 316 & HORT 317	3	AGEC 160	3
HORT 313	3	Colonnade - Social & Cultural	3
Horticulture Elective	3	Horticulture Elective	3
Agriculture Elective	3	AGRI 108	3
ENG 300	3	AGRI 369	2
	15		14

Fourth Year

Fall	Hours	Spring	Hours
AGRI 397	1	AGRI 398	1
AGRI 491 or AGRI 291	3	BIOL 348	4
AGRI 494	3	HORT 407 & HORT 408	3
Horticulture Elective	3	Horticulture Elective	3
Horticulture Elective	3	Colonnade - Systems	3
Colonnade - Local to Global	3		
	16		14

Total Hours 121

Horse Science

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGRI 108	3
CHEM 105 & CHEM 106	4	AGRO 110	3

First Year

Fall	Hours	Spring	Hours
ANSC 140 & ANSC 141	4	CHEM 107 & CHEM 108	4
AGRI 175	1	AGMC 176	2
	15		15

Second Year

Fall	Hours	Spring	Hours
ENG 200	3	World Language Requirement or General Elective	3
AGMC 170 & AGMC 171	3	ANSC 130 & ANSC 131	3
ANSC 240 & ANSC 241	3	AGRI 291	3
BIOL 120 & BIOL 121	4	Colonnade - Arts & Humanities	3
Colonnade - Social & Behavioral	3	ENG 300	3
	16		15

Third Year

Fall	Hours	Spring	Hours
HIST 101 or HIST 102	3	AGRI 398	1
AGRO 350	3	ANSC 344	3
ANSC 330 & ANSC 331	3	AGEC 160	3
ANSC 345	3	ANSC 333 & ANSC 334	3
ANSC 232	2	Colonnade - Social & Cultural	3
AGRI 369	1	Colonnade - Local to Global	3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
AGRI 397	1	AGRI 494	3
ANSC 437 & ANSC 438	3	ANSC 446 & ANSC 447	3
Animal/Equine Science Elective	3	ANSC 448	4
Colonnade - Systems	3	Animal/Equine Science Elective	3
AGRI 369	2	Animal/Equine Science Elective	3
	12		16

Total Hours 120

Turf and Golf Course Management

First Year

Fall	Hours	Spring	Hours
ENG 100	3	COMM 145	3
MATH 115	3	AGMC 176	2

First Year

Fall	Hours	Spring	Hours
CHEM 105 & CHEM 106	4	AGMC 170 & AGMC 171	3
AGRO 110	3	CHEM 107 & CHEM 108	4
AGRI 175	1	Colonnade: Arts & Humanities	3
	14		15

Second Year

Fall	Hours	Spring	Hours
ENG 200	3	World Language (if needed) or General Elective	3
ANSC 140	3	AGRI 291	3
BIOL 120 & BIOL 121	4	AGRO 320	3
Colonnade - Social & Behavioral	3	HIST 101 or HIST 102	3
HORT 313	3	ENG 300	3
	16		15

Third Year

Fall	Hours	Spring	Hours
Connections - Social and Cultural	3	AGRI 397	1
AGRO 350 & AGRO 351	4	AGMC 270 & AGMC 271	3
AGEC 160	3	AGMC 272 & AGMC 273	3
Connections - Local to Global	3	Elective Course (AGRI, HORT, AGEC, AGRO)	3
AGEC 260	3	HORT 301 & HORT 302	3
	16		13

Fourth Year

Fall	Hours	Spring	Hours
AGRI 398	1	AGRI 494	3
AGMC 392 & AGMC 393	3	Elective Course (AGRI, HORT, AGEC, AGRO)	3
Elective Course (AGRI, HORT, AGEC, AGRO)	3	Elective Course (AGRI, HORT, AGEC, AGRO)	3
Elective Course (AGRI, HORT, AGEC, AGRO)	3	Elective Course (AGRI, HORT, AGEC, AGRO)	3
AGRI 369	3	Elective Course (AGRI, HORT, AGEC, AGRO)	3
Connections - Systems	3		
	16		15

Total Hours 120

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

No

Does this program include courses from outside your department?

Yes

Outside Courses

Details

Who approved including these courses?	When were they approved?
Unknown since they were approved long ago	Unknown

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	Students will demonstrate the ability to assimilate, analyze, and effectively communicate agricultural research data.	Assess student oral presentation skills. A standardized rubric is utilized by faculty to evaluate content knowledge, mechanics and delivery, quality of visuals and organization and clarity.
SLO 2	Students will demonstrate the ability to effectively interpret issues pertinent to the agriculture discipline.	Assess student learning related to pertinent agricultural issues that generate debate among industry, consumers and advocacy groups. Analysis of essay-format exams (3 per semester) via a standardized rubric.
SLO 3	Students will demonstrate proficiency in agriculture career preparation.	Assess student performance on a mock job interview via a standardized rubric. Mock interviews are facilitated by Advising and Career Development Center personnel. Proficiency in resume and cover letter development is also assessed.

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.)?

No

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

No

If no, enter the percentage of the program that will be taught online.

0

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

Yes

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

Library Resources

Attach library resources

Rationale for the program proposal?

The proposed changes to the General Agriculture concentration will allow for incorporation of a minor for those students wishing to do so. This will effectively replace program reference #: 605 which currently allows for a minor or double major option. Program # 605 will subsequently be removed pending approval of these changes.
The addition of AGRO 459 to the Agronomy-Soil Science concentration reflects the inclusion of a recently created course. AGRO 455/456 has not been taught in many years and is thus being removed.
The addition of AGRI 493 to the Agronomy-Soil Science concentration adds more content diversity to the list of electives.

Additional Attachments

Additional information or attachments

Reviewer Comments

Course Change Request

Date Submitted: 01/30/23 2:45 pm

Viewing: METR 322 : Global Climate Systems

Last revision: 01/30/23 2:45 pm

Changes proposed by: grg07567

Catalog Pages referencing this course

Colonnade Requirements

Department of Earth, Environmental, and Atmospheric Sciences

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Greg Goodrich	gregory.goodrich@wku.edu	270-745-5986

Review Type Full Review

In Workflow

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

Approval Path

1. 01/27/23 8:09 am Leslie North (leslie.north): Rollback to Initiator
2. 01/27/23 1:45 pm Leslie North (leslie.north): Approved for GEO Approval
3. 01/30/23 9:18 am Stuart Burris (stuart.burris): Rollback to Initiator
4. 01/30/23 3:02 pm Leslie North (leslie.north): Approved for GEO Approval

Term for implementation	Fall 2023		
Academic Level	Undergraduate		
Course prefix (subject area)	METR - Meteorology	Course number	322
Department	Geography & Geology		
College	Science and Engineering		

Course title
Global Climate Systems

Abbreviated course title: GLOBAL CLIMATE SYSTEMS

Course description
Analyzes the elements of climate and their world distribution with emphasis on the climatic controls and processes; surveys the influences of climates on environment; introduces climatic classification systems and climatological regions of the world.

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
Lecture

CIP Code: 400404 - Meteorology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		CONE	Y			
And		METR 121	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

Adding student learning outcomes and content outlines. Reduced number of credit hours from 4 to 3 to better align with the rest of the Meteorology curriculum (which now has all 3 credit hour courses) and for ease of scheduling. The content removed from METR 322 is the section on Applied Climatology, which will be covered in METR 326 Applied Meteorology/Climatology. This change in content placement also helps reduce redundancy in courses.

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

Are you seeking Colonnade approval for this course?	No ~~Yes~~

Student Learning Outcomes

#	Student Learning Outcomes
1	Identify the components comprising the global climate system and factors that control their evolution and changes
2	Demonstrate knowledge of climate classification methods and major climate types
3	Identify major climate controlling factors of major world regions and their climate types
4	Demonstrate knowledge of the interactions between the climate system components by discussing climatic processes, patterns, and teleconnections that relate to the world regional climates
5	Evaluate with argumentation and evidence how human activities interact with the global climate system, as well as the global climate change

Content outline

#	Topic
1	Climatology introduction Earth-Atmosphere system Climate controls Effects on climate Planetary boundary layer Hydrologic cycle Surface water balance Atmospheric and oceanic circulations Climate classification Regional climates Climate change Paleoclimatology Anthropogenic climate change Teleconnections

Student expectations and requirements

Tentative texts and course materials

Special equipment,

materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Leslie North (leslie.north) (01/27/23 8:09 am): Rollback: Please change credit hours.

Stuart Burris (stuart.burris) (01/30/23 9:18 am): Rollback: The workflow is not showing correctly (expedited versus full & this should be full). Registrar indicates I have to send it back to the initiator for this to correct itself. Also, unless you intend to REMOVE this course from Colonnade, please change the Colonnade question back to "yes."

Key: 6004

Program Change Request

Date Submitted: 01/23/23 4:27 pm

Viewing: 5008 : Geological Sciences, Bachelor of Science

Last approved: 06/27/22 10:52 am

Last edit: 01/23/23 4:27 pm

Changes proposed by: ryh84947

Catalog Pages
Using this Program
Geological Sciences, Bachelor of Science (5008)

Proposed Action

Active

Contact Person

Name	Email	Phone
M. Royhan Gani	royhan.gani@wku.edu	270-745-5977

Term of 2023-2024

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. 01/27/23 10:08 am Leslie North (leslie.north): Approved for GEO Approval

History

1. May 26, 2021 by Rheanna Plemons (rheanna.plemons)
2. Sep 27, 2021 by Jennifer Hammonds (jennifer.hammonds)
3. Apr 29, 2022 by MD Gani (royhan.gani)
4. Jun 27, 2022 by Elizabeth Laves (beth.laves)

Implementation	
Program Reference Number	5008
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	Geography & Geology
College	Science and Engineering
Program Name (eg. Biology)	Geological Sciences, Bachelor of Science

Will this program have concentrations?
Yes

Concentrations

Concentrations
Geology (GEOL)
Environmental Earth Science (ENES)

General

CIP Code	40.0601 - Geology/Earth Science, General.
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)

Geological science is often known as the science of the 21st century, as it is ground zero for tackling global challenges like managing land, water, ocean, space, mineral, and energy resources in a sustainable way. Society's interest in the environment and climate change is growing fast. The time has never been better to become a geological scientist. The B.S. degree in Geological Sciences can provide a wide variety of career options, including jobs in the corporate (oil & gas, mining, environmental, engineering), government (surveys, agencies, park service), and academic sectors. Our program takes a holistic approach, as the traditional geology has become increasingly interdisciplinary. With three ~~two~~ concentrations (Geology, ~~and~~ Environmental Earth Science, and General), ~~Science),~~ the program has a common core, providing the knowledge base for students to pursue the Professional Geologist licensure. Each concentration has different other requirements, specializing in different subjects. Our classes feature interactive learning, both in the field exploring the earth and in the lab doing simulations and analytical works. Students also enjoy excellent opportunities to work with faculty and other students on a variety of research topics.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (30-48 ~~(48~~ hours)

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 6, 2022 10:48am

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at www.wku.edu/registrar/degree_certification.php.
Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: https://www.wku.edu/colonnade/colonnaderequirements.php.

The major in Geological Sciences requires a minimum of 30-48 ~~48~~ semester hours and leads to a Bachelor of Science degree. ~~A minor program is NOTrequired.~~Other required math and science cognate courses total ~~courses (e.g., physics, chemistry, biology, mathematics) total~~ an additional 11-17 semester hours. This major provides students with a versatile background in geological sciences for entry-level employment or graduate school.

Geological Sciences Major - Common Core (22 hours)

GEOL 111	The Earth	3
GEOL 112	Earth's Past and Future	3
GEOL 113	The Earth Laboratory	1
GEOL 114	Earth's Past and Future Lab	1
GEOL 350	Mineralogy and Petrology	4
GEOL 360	Sedimentology and Stratigraphy	4
GEOL 408	Structural Geology	4
GEOL 499	Professional Preparation in Geology	2
~~GISC 316~~	~~Fundamentals of GIS~~	~~4~~

~~GEOG 300~~	~~Writing in the Geosciences~~	~~3~~
Total Hours		22

Geology Concentration

In addition to the Common Core, take the following courses to fulfill the Geology concentration:		22
Required Course (10 hours)		
GEOL 380	Introductory Field Techniques	3
GISC 316	Fundamentals of GIS	4
GEOG 300	Writing in the Geosciences	3
Elective Courses (16 hours)		
Select 16 hours from any 200-level or above GEOL course or from GEOG 391 or GEOG 452 with advisor approval.		16
Total Hours		48

Additional Required Courses Outside of the Major

Take the following required courses towards the Geology concentration:		
MATH 136	Calculus I	4
MATH 137	Calculus II	4
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	5
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	4
Total Hours		17

Environmental Earth Science Concentration ~~concentration~~

In addition to the Common Core, take the following courses to fulfill the Environmental Earth Science concentration:		22
Required Course (19 hours)		
GEOL 250	Environmental Geology	3
GEOL 310	Global Hydrology	3
GEOL 415	Applied Environmental Geology	3
GEOL 420	Geomorphology	3
~~In addition, select two courses from the following:~~		~~6~~
~~GEOL 301~~	~~Geology and Climate: Past and Future~~	
~~GEOL 311~~	~~General Oceanography~~	

~~GEOL 315~~	~~Energy, Climate and Carbon~~	
~~GEOL 440~~	~~Hydrogeology~~	
~~GEOL 445~~	~~Aqueous Geochemistry~~	
~~GEOL 465~~	~~Geophysics~~	
GISC 316	Fundamentals of GIS	4
GEOG 300	Writing in the Geosciences	3
Elective Courses (7 hours)		
~~Select 1 hour from any 300-400 level GEOL course or from any GEOG 400-level or GISC 300-400 level course with advisor approval.~~		~~1~~
Select 7 hours from any 300-400 level GEOL course with advisor approval.		7
Total Hours		48

Additional Required Courses Outside of the Major

Take the following additional courses towards the Environmental Earth Science concentration:		
MATH 183	Introductory Statistics	3
CHEM 105 & CHEM 106	Fundamentals of General Chemistry and Fundamentals of General Chemistry Laboratory (or higher)	4
BIOL 207 & BIOL 208	General Microbiology and General Microbiology Laboratory	4
Total Hours		11

General Concentration

A second major or a minor of at least 24 hours is required with this concentration.

In addition to the Common Core, take the following courses to fulfill the General Concentration:		22
Elective Courses (8 hours)		
Select 8 hours from any 300-level or above GEOL course with advisor approval.		8
Total Hours		30

Additional Required Courses Outside of the Major

Take the following additional courses towards the General Concentration:		
MATH 115	Applied College Algebra	3-4
or MATH 116	College Algebra	
or MATH 183	Introductory Statistics	
or MATH 136	Calculus I	
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	5

BIOL 120 & BIOL 121	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab	4-5
or BIOL 122 & BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab	
or PHYS 180 & PHYS 181	Introductory Modern Physics and Introductory Modern Physics Laboratory	
or PHYS 201	College Physics I	
or PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	
or PHYS 255 & PHYS 256	University Physics I and University Physics I Lab	
Total Hours		12-14

4-Year Plan

Geological Sciences - Geology Concentration

First Year			
Fall	Hours	Spring	Hours
GEOL 111	3	GEOL 112	3
GEOL 113	1	GEOL 114	1
ENG 100	3	ENG 200	3
COMM 145	3	CHEM 120 & CHEM 121	5
HIST 101 or HIST 102	3	Geology Concentration Elective 1 - Recommend GEOL 250	3
GEOG 175	2		
	15		15
Second Year			
Fall	Hours	Spring	Hours
GEOL 350	4	GEOL 360	4
GEOL 380	3	Geology Concentration Elective 2	3
MATH 136	4	MATH 137	4
Colonnade: Explorations (Arts & Humanities)	3	Colonnade: Connections (Social & Cultural)	3
Colonnade: Explorations (Social & Behavioral)	3		
	17		14
Third Year			
Fall	Hours	Spring	Hours
PHYS 231 & PHYS 232	4	GEOL 408	4
GISC 316	4	Geology Concentration Elective 4	3
Colonnade: Connections (Systems) - Recommend GEOL 301/315	3	Colonnade: Writing in the Disciplines - Recommend GEOG 300	3

First Year

Fall	Hours	Spring	Hours
Geology Concentration Elective 3	3	Colonnade: Connections (Local to Global)	3
		Geology Concentration Elective 5	3
	14		16

Fourth Year

Fall	Hours	Spring	Hours
GEOL 499	2	General Elective - Recommend GEOL 399	3
Geology Concentration Elective 6	3	General Elective	3
General Elective - Recommend GEOL 399	3	General Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
	14		15

Total Hours 120

Geological Sciences - Environmental Earth Science (EES) Concentration

First Year

Fall	Hours	Spring	Hours
GEOL 111	3	GEOL 112	3
GEOL 113	1	GEOL 114	1
ENG 100	3	ENG 200	3
COMM 145	3	CHEM 105 & CHEM 106	4
HIST 101 or HIST 102	3	GEOL 250	3
GEOG 175	2		
	15		14

Second Year

Fall	Hours	Spring	Hours
GEOL 350	4	GEOL 360	4
GEOL 301, GEOL 311, GEOL 315, GEOL 440, GEOL 445, or GEOL 465 (EES Choice 1)	3	GEOL 310	3
Colonnade: Explorations (Arts & Humanities)	3	BIOL 207 & BIOL 208	4
MATH 183	3	Colonnade: Connections (Local to Global)	3
Colonnade: Explorations (Social & Behavioral)	3		
	16		14

Third Year

Fall	Hours	Spring	Hours
GEOL 420	3	GEOL 408	4
Colonnade: Connections (Systems) - Recommend GEOL 301/315	3	GEOL 415	3
GISC 316	4	GEOL 301, GEOL 311, GEOL 315, GEOL 440, GEOL 445, or GEOL 465 (EES Choice 2)	3

First Year

Fall	Hours	Spring	Hours
EES Elective	3	Colonnade: Writing in the Disciplines - Recommend GEOG 300	3
Colonnade: Connections (Social & Cultural)	3	General Elective - Recommend GEOL 399	3
	16		16

Fourth Year

Fall	Hours	Spring	Hours
GEOL 499	2	General Elective - Recommend GEOL 399	3
General Elective - Recommend GEOL 399	3	General Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
	14		15

Total Hours 120

Geological Sciences - General Concentration

First Year

Fall	Hours	Spring	Hours
GEOL 111	3	GEOL 112	3
GEOL 113	1	GEOL 114	1
ENG 100	3	ENG 200	3
HIST 101 or HIST 102	3	CHEM 120 & CHEM 121	5
COMM 145	3	Course in 2nd Major or Minor	3
GEOG 175	2		
	15		15

Second Year

Fall	Hours	Spring	Hours
GEOL 350	4	GEOL 360	4
MATH 115 (or MATH 116 or MATH 183 or MATH 136)	3	General Concentration Elective 2	3
General Concentration Elective 1	3	Course in 2nd Major or Minor	3
Colonnade Explorations - Arts & Humanities	3	Colonnade Connections - Social & Cultural	3
Colonnade Explorations - Social & Behavioral	3	Course in 2nd Major or Minor	3
	16		16

Third Year

Fall	Hours	Spring	Hours
Cognate science requirements w/Lab	4	GEOL 408	4
Course in 2nd Major or Minor	3	Course in 2nd Major or Minor	3
Colonnade Connection - Systems (GEOL 301)	3	ENG 300 or GEOG 300	3
General Concentration Elective 3	3	Colonnade Connections - Local to Global	3
		Course in 2nd Major or Minor	3
	13		16

Fourth Year

Fall	Hours	Spring	Hours

First Year

Fall	Hours	Spring	Hours
GEOL 499	2	General Elective	3
Course in 2nd Major or Minor	3	General Elective	3
Course in 2nd Major or Minor	3	General Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
	14		15

Total Hours 120

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

No

Does this program include courses from outside your department?

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	Students will be able to apply fundamental geological principles in solving problems.	During the final senior semester, all graduating students are required to take the capstone Geology 499 Professional Preparation class, in which students take a comprehensive exam. In this exam, there are 12 questions related to SLO 1, representing key concepts from common-core courses in the Geological Sciences B.S. degree curriculum.
SLO 2	Students will recognize and articulate the integrative nature and deep-time connection of various earth system components, including lithosphere, hydrosphere, atmosphere, and biosphere.	During the final senior semester, all graduating students are required to take the capstone Geology 499 Professional Preparation class, in which students take a comprehensive exam. In this exam, there are 12 questions related to SLO 2, representing key concepts from common-core courses in the Geological Sciences B.S. degree curriculum.
SLO 3	Students will be able to demonstrate understanding of current societal issues related to earth science.	During the final senior semester, all graduating students are required to take the capstone Geology 499 Professional Preparation class, in which students take a comprehensive exam. In this exam, there are 6 questions related to SLO 3, representing key concepts from common-core courses in the Geological Sciences B.S.

	List all student learning outcomes of the program.	Measurement Plan
		degree curriculum.

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.)?

No

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

No

If no, enter the percentage of the program that will be taught online.

22

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

No

If no, enter the percentage of the program that is taught face-to-face

50

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

Library Resources

Attach library resources

Rationale for the program proposal?

In this proposal, we did two modifications: streamlined Environmental Earth Science Concentration, and added a third concentration (General Concentration).

Streamlining Environmental Earth Science Concentration: we don’t have enough faculty to teach various courses listed in the concentration requirements. Thus, we streamlined the concentration requirement.

Addition of General Concentration: this concentration will allow students in other major/minor programs to get a degree in Geological Sciences with fewer hours. Since we don’t have a minor in Geological Sciences, this new concentration should help our program grow.

Additional
Attachments

Additional information or attachments

Reviewer Comments

Key: 344

Program Change Request

Date Submitted: 01/04/23 11:43 am

Viewing: 5006 : Manufacturing Engineering Technology, Bachelor of Science

Last approved: 11/15/22 2:46 pm

Last edit: 01/04/23 11:43 am

Changes proposed by: grg81142

Catalog Pages
Using this Program
Manufacturing Engineering Technology, Bachelor of Science (5006)

Proposed Action

In Workflow

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

Approval Path

1. 01/22/23 9:49 pm Shahnaz Aly (shahnaz.aly): Approved for EAS Approval

History

1. Mar 22, 2021 by Rheanna Plemons (rheanna.plemons)
2. May 18, 2021 by Rheanna Plemons (rheanna.plemons)
3. May 18, 2021 by Rheanna Plemons (rheanna.plemons)
4. May 26, 2021 by Rheanna Plemons (rheanna.plemons)
5. Apr 22, 2022 by Jessica Dorris (jessica.dorris)
6. Apr 22, 2022 by Jessica Dorris (jessica.dorris)
7. Apr 22, 2022 by

Jessica Dorris (jessica.dorris)
8. Sep 26, 2022 by Jessica Dorris (jessica.dorris)
9. Nov 15, 2022 by Jessica Dorris (jessica.dorris)

Active

Contact Person

Name	Email	Phone
Greg Arbuckle	greg.arbuckle@wku.edu	270-745-2403

Term of Implementation	2023-2024
Program Reference Number	5006
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	Engineering & Applied Sciences, School of
College	Science and Engineering
Program Name (eg. Biology)	Manufacturing Engineering Technology, Bachelor of Science

Will this program have concentrations?

No

CIP Code	15.0613 - Manufacturing Engineering Technology/Technician.
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)

This program prepares individuals to apply basic engineering principles and advanced manufacturing technical skills in support of industrial operations. The major includes instruction in optimization theory, human factors, organizational behavior, industrial processes, industrial planning procedures, systems integration, quality, and project management. Graduates achieve positions of leadership in business and industry while practicing innovation in the global marketplace.

Program Description

A minor or second major is not required. Course requirements for the major are shown below. Students should consult with an advisor in planning their course schedules and career goals.

Project Lead the Way

The School of Engineering and Applied Sciences (SEAS) agrees to grant college level credit for secondary school students from certified Project Lead the Way (PLTW) schools who satisfy the following requirements:
First, students must complete the following two (2) PLTW courses with a grade of B or above and a 6 or above on the End of Course college credit exam: 1. Introduction to Engineering Design; and 2. Principles of Engineering
Second, students must complete two (2) of the following PLTW courses with a grade of B or above and a 6 or above on the End of Course college credit exam: Aerospace Engineering; Biological Engineering; Civil Engineering and Architecture; Computer Integrated Manufacturing; Computer Science and Software Engineering; Digital Electronics; Capstone Course – Engineering Design and Development
Third, students must meet the requirements for admission to Western Kentucky University and enroll in the Bachelor of Science in Manufacturing Engineering Technology program within SEAS. Finally, students requesting the credit must provide a written statement from the instructor of the PLTW program and the principal or guidance counselor, stating the student has successfully completed the program with the above specifications. In addition to the written statement, an official transcript should be submitted for verification.
If the previous four conditions are met, the following three (3) courses will be articulated to the student's Western Kentucky University record:

MFGE 120	Basic Electricity	3
MFGE 205	CADD for Manufacturing	3
AMS EL-L (Lower Level Undergraduate Technical Elective)		6
Total Hours		12

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (61 hours)

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 6, 2022 10:48am

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at www.wku.edu/registrar/degree_certification.php.

Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: https://www.wku.edu/colonnade/colonnaderequirements.php.		
Technical Core Courses		
Select one of the following Finance Selectives:		3
ACCT 220	Principles of Financial Accounting	
or MKT 220	Basic Marketing Concepts	
or FIN 161	Personal Finance	
or ECON 202	Principles of Economics (Micro)	
or ECON 203	Principles of Economics (Macro)	
AGMC 371 & AGMC 372	Agricultural Mechanics and Agricultural Mechanics Laboratory	3
MFGE 120	Basic Electricity	3
~~Select one of the following CAD/Drafting Courses:~~		~~3~~
MFGE 205	CADD for Manufacturing	3
SEAS 271	Industrial Statistics	3
SEAS 398	Internship I	1
or SEAS 401	Contemporary Issues in Architecture and Manufacturing	
MFGE 490A	Senior Research for Manufacturing Engineering Technology	3
MFGE 328	Robotics and Machine Vision	3
MFGE 217	Industrial Materials	3
MFGE 227	Introduction to Manufacturing Methods	3
MFGE 342	Manufacturing Operations	3
MFGE 343	Automated Systems	3
MFGE 370	Computer Numerical Control	3
Total Hours		37
Management Core		
SEAS 310	Safety in Industry	3
MFGE 356	Systems Design and Operation	3
or MGT 314	Operations Management	
SEAS 390	Project Management	3
SEAS 430	Technology Management / Supervision / Team Building	3
SEAS 371	Quality Assurance	3
SEAS 394	Lean Systems	3

Select a Communications Selective from the following:		3
COMM 345	Advanced Public Speaking	
or COMM 346	Persuasion	
or COMM 349	Small Group Communication	
or COMM 362	Organizational Communication	
or MGT 261	Business Communication Fundamentals	
or COMM 330	Leadership Communication	
or COMM 348	Interpersonal Communication	
Select a Business Law Selective from the following:		3
MGT 301	Business Law	
or MGT 333	Management of Nonprofit Organizations	
Total Hours		24
Additional Program Requirements:		
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	4
MATH 117	Trigonometry (or higher)	3
Select one combination from the following Chemistry Sequences:		4-5
CHEM 105 & CHEM 106	Fundamentals of General Chemistry and Fundamentals of General Chemistry Laboratory	
OR		
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	
Total Hours		11

†

Please consult with your advisor regarding courses within your major that can overlap with Colonnade Program requirements (such as CHEM 105/106 and CHEM 120/121 [E-NS/SL], COMM 349 [K-SY], ECON 202 and 203 [E-SB], and FIN 161 [E-SB]).

4-Year Plan

Finish in Four Plan

First Year

Fall	Hours	Spring	Hours
MFGE 120	3	HIST 101 or HIST 102	3
MFGE 205	3	SEAS 271	3
ENG 100	3	Financial Selective	3

First Year

Fall	Hours	Spring	Hours
CHEM 105 & CHEM 106	4	MFGE 217	3
MATH 117	3	COMM 145	3
	16		15

Second Year

Fall	Hours	Spring	Hours
MFGE 227	3	ENG 200	3
SEAS 371	3	MFGE 342	3
Colonnade - Social & Behavioral Sciences	3	MGT 301 or MGT 333	3
PHYS 231 & PHYS 232	4	General Elective	3
General Elective	3	Colonnade - Arts & Humanities	3
	16		15

Third Year

Fall	Hours	Spring	Hours
MFGE 328	3	SEAS 390	3
MFGE 356	3	SEAS 310	3
AGMC 371 & AGMC 372	3	MFGE 343	3
COMM Selective	3	MFGE 370	3
Connections - Social and Cultural	3	Connections - Local to Global	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
SEAS 430	3	SEAS 394	3
Connections - Systems	3	MFGE 490A	3
SEAS 398	1	General Elective	3
ENG 300	3	General Elective	3
General Elective	3	General Elective	3
	13		15

Total Hours 120

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

No

Does this program include courses from outside your department?

Yes

Outside Courses

Details

Who approved including these courses?	When were they approved?
Kanita DuCloux and Alex Lebedinsky	Email Sent 4 Jan. 2023

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	1. Graduates will possess/ demonstrate the ability to identify, formulate strategies and solve technical problems.	The graduates from the MET program are required to take the Certified Manufacturing Specialist (CMS) exam offered by the Association of Technology, Management, and Applied Engineering (ATMAE) before their final graduation. The ATMAE is the accreditation board of the MET program. The ATMAE's CMS Exam required the students to answer questions about the program's core courses. The following categories of the ATMAE's CMS exam were used to evaluate SLO1: Computer Integrated Manufacturing (CIM) (4 areas), Electronics (2 areas), Industrial Materials (4 areas), Machining (5 areas), Manufacturing Philosophies (3 areas), Metrology (4 areas), Non-traditional Machining (5 areas), and Technical Drafting (8 areas).
SLO 2	2. Graduates will demonstrate an ability to communicate effectively.	Lab reports of MFGE 217: Industrial Materials class The written and graphical presentation competencies were evaluated from the lab reports of the MFGE 217 Industrial Materials class.
SLO 3	3. Graduates will demonstrate the knowledge and capacity to apply managerial/leadership principles and practices to appropriate situations.	The graduates from the MET program are required to take the Certified Manufacturing Specialist (CMS) exam offered by the Association of Technology, Management, and Applied Engineering (ATMAE) before their final graduation. The ATMAE is the accreditation board of the MET program. The ATMAE's CMS Exam required the students to answer areas about the program's core courses. The following question categories of the ATMAE's CMS exam were used to evaluate SLO3: Production Planning (3 areas), Quality (4 areas), and Supervision/Management (8 areas)

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?

No

If no, enter the percentage of the program that will be taught online.

50

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

Yes

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

Library Resources

Attach library resources

Rationale for the program proposal?

The electives are being removed to allow all students to complete the courses that were designed to meet the student learning outcomes for the courses and the program.

Additional Attachments

Additional information or attachments

SEAS Approval: 4/10/2020
OCSE Approval: 4/30/2020
UCC Approval: 9/15/2020
Senate Approval: 10/4/2020
Provost Approval: 10/26/2020

Revised by Registrar 4/22/22. ACCT 200 updated to ACCT 220 effective 202230.

Reviewer Comments

Key: 269