MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Melanie Autin
Dr. Simran Banga
Dr. Royhan Gani
Dr. Ting-Hui Lee
Dr. Andy Mienaltowski
Dr. Hope Marchionda
Dr. Todd Willian
Dr. Zhonghang Xia
Dr. Bangbo Yan

FROM: Dr. Stuart Burris, Chair

SUBJECT: Agenda for <u>Thursday, November 6, 2025</u>

A. OLD BUSINESS:

I. Consideration of the minutes of the October 2025 meeting.

B. NEW BUSINESS:

Type of item	Description of Item & Contact Information
Informational	**<u>The following items were sent through the expedited process</u>** Deletions: AGMC 393 Prefix Change: AGRO 110, AGRO 420 (425), AGMC 326 Suspensions: ANSC 130, 131, 141, 334, 350, 446, 447, 362, AGSY 373, 374, 377, 3788, 425, HORT 304, 305, 312, 403, 404 Title Change: ANSC 448, AGRI 397
Action	**Proposal to Create a New Course** AGRI 392, Agricultural Statistics Lab Contact: Stephen.king2@wku.edu, x3151
Action	**Proposal to Create a New Course** AGRI 393, Introduction to Sustainable Agriculture Contact: Navdeep.singh@wku.edu, x3151
Action	**Proposal to Create a New Course** ANSC 310, Principles of Meat Science Contact: luiz.silva@wku.edu, 6038660764
Action	**Proposal to Create a New Course** ANSC 420, Meat Processing Contact: luiz.silva@wku.edu, x3151
Action	**Proposal to Create a New Course** ANSC 480, Digestive Anatomy of Ruminant Animals Contact: Phillip.gunter@wku.edu, x5958

Action	**Proposal to Create a New Course** PLSS 413, Turf Application Systems & Pest Management Contact: paul.woosley@wku.edu, x3151
Action	**Proposal to Change a Pre-requisite** AGEC 360, Agricultural Economics Contact: Stephen.king2@wku.edu, x3151
Action	**Proposal to Change a Pre-requisite** AGEC 361, Farm Management Contact: Dominique.gumirakiza@wku.edu, x5959
Action	**Proposal to Change a Pre-requisite** AGEC 362, Agricultural Marketing Contact: Dominique.gumirakiza@wku.edu, x5959
Action	**Proposal to Make Multiple Revisions to a Course** AGEC 366, Agricultural Sales and Services Contact: Dominique.gumirakiza@wku.edu, x5959
Action	**Proposal to Change a Pre-requisite** AGEC 463, Agriculture Finance Contact: Stephen.king2@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** AGED 200, Foundations of Agricultural Education Contact: Thomas.kingery@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** AGED 471, Organization and Planning in Agricultural Education Contact: Thomas.kingery@wku.edu, x3151
Action	**Proposal to Change a Title** AGED 475, Selected Topics in Agriculture Contact: Thomas.kingery@wku.edu, x3151
Action	**Proposal to Change a Title** AGRI 175, University Experience - Agriculture Contact: paul.woosley@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** AGRI 291, Introduction to Data Analysis and Interpretation Contact: Stephen.king2@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** AGRI 398, Seminar Contact: todd.willian@wku.edu, x5969

Action	**Proposal to Change a Prerequisite** AGRI 493, Sustainable Agriculture Contact: Navdeep.singh@wku.edu, x3244
Action	**Proposal to Change a Title** ANSC 232, Basic Equitation Contact: paige.smith@wku.edu, 615-946-1576
Action	**Proposal to Make Multiple Revisions to a Course** ANSC 333, Horse Training Contact: paige.smith@wku.edu, 615-946-1576
Action	**Proposal to Make Multiple Revisions to a Course** ANSC 340, Meats and Meat Products Contact: luiz.silva@wku.edu, x5957
Action	**Proposal to Change a Prerequisite** ANSC 345, Principles of Animal Nutrition Contact: Phillip.gunter@wku.edu, x5958
Action	**Proposal to Change a Prerequisite** ANSC 352, Applied Horsemanship Contact: paige.smith@wku.edu, 615-946-1576
Action	**Proposal to Make Multiple Revisions to a Course** ANSC 360, Equine Events Management Contact: paige.smith@wku.edu, 615-946-1576
Action	**Proposal to Change a CIP Code** ANSC 431, Dairy Production Contact: Phillip.gunter@wku.edu, x5958
Action	**Proposal to Change a CIP Code** ANSC 432, Dairy Production Lab Contact: Phillip.gunter@wku.edu, x5958
Action	**Proposal to Change a Title** ANSC 437, Physiology of Reproduction in Domestic Animals Contact: debra.shoulders@wku.edu, 270-792-4299
Action	**Proposal to Change a Title** ANSC 438, Physiology of Reproduction in Domestic Animal Lab Contact: debra.shoulders@wku.edu, 270-792-4299
Action	**Proposal to Make Multiple Revisions to a Course** ANSC 458, Animal Growth and Meat Quality Contact: luiz.silva@wku.edu, x5957

Action	**Proposal to Change a Title** ANSC 475, Selected Topics in Agriculture Contact: luiz.silva@wku.edu, x5957
Action	**Proposal to Make Multiple Revisions to a Course** HORT 209, Floral Design Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 301, Introduction to Landscape Plants Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 302, Introduction to Landscape Plants Lab Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 309: Advances Floral Design Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 313, Turfgrass Management Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 316, Greenhouse Maintenance and Operation Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 317, Greenhouse Maintenance and Operation Lab Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 330, Wedding Floral Design Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 340, Greenhouse Crop Production Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 392, Turf Irrigation Contact: roger.dennis@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** AGRO 418, Plant Pathology Contact: todd.willian@wku.edu, x5969

Action	**Proposal to Make Multiple Revisions to a Course** HORT 419: Fruit, Vegetable, and Vineyard Production Contact: roger.dennis@wku.edu, 270-401-5032
Action	**Proposal to Make Multiple Revisions to a Course** AGRO 454, Soil Management and Conservation Contact: Navdeep.singh@wku.edu, x3151
Action	**Proposal to Make Multiple Revisions to a Course** HORT 475: Selected Topics in Agriculture Contact: roger.dennis@wku.edu, 270-401-5032
Action	**Proposal to Make Multiple Revisions to a Course** BIOL 212: Genome Discovery Exploration Contact: Simran.banga@wku.edu, x3696
Action	**Proposal to Make Multiple Revisions to a Course** BIOL 312, Bioinformatics Contact:Simran.banga@wku.edu, x3696
Action	**Proposal to Create a New Course** DISC 101, Introduction to Global Disasters Contact: david.oliver@wku.edu, x 4181, josh.durkee@wku.edu, x8777, Leslie.north@wku.edu, x4555
Action	**Proposal to Create a New Course** DISC 200, Applied Disaster Science Practices Contact: david.oliver@wku.edu, x 4181, josh.durkee@wku.edu, x8777, Leslie.north@wku.edu, x4555
Action	**Proposal to Make Multiple Revisions to a Course** GEOG 391, Geoscience Data Analysis Contact:amy.nemon@wku.edu, x3082
Action	**Proposal to Create a New Program** Ref. 416, Disaster Science Contact: Leslie North, Leslie.north@wku.edu, x4555, David Oliver, david.oliver@wku.edu, x4181, Joshua Durkee, Joshua.durkee@wku.edu, x8777
Action	**Proposal to Create a New Program** Ref. 422, Environmental, Earth, and Sustainability Sciences Contact: Royhan Gani, Royhan.gani@wku.edu, x5977
Action	**Proposal to Make Multiple Revisions to a Course** MATH 405, Numerical Analysis I Contact: Mikhail.khenner@wku.edu, x2797
Action	**Proposal to Make Multiple Revisions to a Course** MATH 406, Numerical Analysis II Contact: Richard.schugart@wku.edu, 941-524-6066

Action	**Proposal to Create a New Course** STAT 480, Advanced Statistical Data Analysis Contact: lukun.zheng@wku.edu, 980-253-0563
Action	**Proposal to Change a Program** Ref. 417: Mathematics, Minor Contact: Richard.schugart@wku.edu, x2947
Action	**Proposal to Change a Program** Ref. 528: Mathematics, Bachelor of Arts Contact: Richard.schugart@wku.edu, x2947
Action	**Proposal to Change a Program** Ref. 728: Mathematics, Bachelor of Arts Contact: Richard.schugart@wku.edu, x2947
Action	**Proposal to Change a Program** Ref. 5012: Data Science Contact: alex.lebedinsky@wku.edu, x3150
Action	**Proposal to Change a Program** Ref. 747E/747: Psychological Science Contact: Andrew.mienaltowski@wku.edu, 270-681-0270

C. OTHER BUSINESS

Minutes – OCSE Curriculum Committee **October 2025**

Members Present:
Dr. Melanie Autin, Dr. Royhan Gani, Dr. Ting-Hui Lee, Dr. Andy Mienaltowski, Dr. Hope Marchionda, Dr. Todd Willian, Dr. Zhonghang Xia, Dr. Bangbo yan
Guests Present:
Dr. Doug McElroy

FROM: Dr. Stuart Burris, Chair

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

OLD BUSINESS:

Minutes from the September 2025 meeting were approved as posted.

NEW BUSINESS:

Action Agenda:
AGMC 170, AGMC 171, and AGMC 475 bundled: Autin/Gani; Approved
AGRO 310, 320, 352, 352, 409, 410, 422, 450, 457, 458, 475 bundled: Autin/Marchionda; Approved with friendly amendments
Ref. 525 Biology: Willian Gani; Approved

Other Business:
None

Course Change Request

New Course Proposal

Date Submitted: 10/24/25 1:31 pm

Viewing: **AGRI 392 : Agricultural Statistics Lab**

Last revision: 10/24/25 1:31 pm

Changes proposed by: wll99339

Proposed Action

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Stephen King	stephen.king2@wku.edu	(270) 745-3151

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	AGRI - Agriculture - General	Course number	392
Department	Agriculture		
College	Science and Engineering		
Course title			

Agricultural Statistics Lab

Abbreviated course title: AGRICULTURAL STATISTICS LAB

Course description

Application of scientific method in acquiring new knowledge, interpretation of statistical research data; application of statistical concepts. Laboratory.

Credit hours: 1

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

Lab

CIP Code: 010000 - Agriculture, General.

Does this course have prerequisites

No

Corequisites

AGRI 391 - Agricultural Statistics

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

Currently the Department of Agriculture and Food Science requires that its students earning a BS in Agriculture (508) complete AGRI 291 or AGRI 491, which are both 3-credit hour courses. It is proposed be revise AGRI 291 into a 2-credit hour lecture course (AGRI 391 Agricultural Statistics) and create a new 1-credit hour lab course (AGRI 392 Agriculture Statistics Lab). The 1-credit hour lab (AGRI 392) will be taught in a dedicated computer lab. This is being done to better serve our students and to increase effectiveness and efficiency in learning how to use statistical software (primarily Microsoft Excel) for applied statistical analysis in agriculture. This should also improve the career readiness of our students. The name change for the course series from Introduction to Data Analysis to Agricultural Statistics is proposed to better reflect course content and helps reduce paperwork, particularly for WKU students applying to veterinary medicine school. The course number changes from AGRI 291 to AGRI 391 (lecture) with the new AGRI 392 (lab) better reflects the level of content covered in the courses. Please note the co-requisite for the new AGRI 392 will be AGRI 391.

Is this related to other courses at WKU?

No

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

N/A

How many sections of this course per academic year will be offered?

2

How many students per section are expected to enroll in this proposed course?

20

How many students per academic year are expected to enroll?

80

How were these projections calculated? Explain any supporting evidence/data you

have for arriving at these projections:
Past enrollment of AGRI 291

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	Manage data entry, data management, and methods of summarizing data.
2	Describe data analysis, hypothesis testing, and analysis of functional relationships.
3	Describe methods for documenting and communicating research results involving data.
4	Use statistical analysis software and handheld calculators.

Content outline

#	Topic
1	Introduction
2	Statistical Concepts and Data
3	Graphical and Numerical Descriptions of Data
4	Introduction to Probability
5	Discrete and Continuous Probability Distributions
6	Sampling and Sampling Distributions
7	Interval Estimation
8	Hypothesis Testing
9	Regression Analysis

Student expectations and requirements

Students are expected to actively engage in the computer laboratory sessions, complete any assigned readings, and participate in hands-on data analysis projects. Students must submit assignments on time, maintain

academic integrity, and collaborate effectively in any group activities. Regular attendance and active participation are required. Assessments may include quizzes, practical exercises, or a project analyzing real-world agricultural data. Students should dedicate at least a few hours weekly to coursework, ensuring proficiency in applying statistical methods to agricultural research and problem-solving.

Tentative texts and
course materials

Course notes currently utilized in AGRI 291, which are made available to students via the Blackboard site, will be revised and made available to students.

No specific textbook is required. However, any one of the following textbooks is recommended:
• Black, Ken and David L. Eldredge. 2002. Business & Economic Statistics Using Microsoft Excel. Cincinnati, OH: Thomson South-Western. 698 pp. ISBN: 032401726X
• Lawal, Bayo. 2014. Applied Statistical Methods in Agriculture, Health, and Life Science. Cham (ZG), Switzerland: Springer International Publishing AG. 799 pp. ISBN 9783319055541. This text is freely available in eBook format from the WKU Library.
• Warren, Carolyn, Kim Denley, and Emily Atchley. 2021. Beginning Statistics, 3rd Edition. Mount Pleasant, SC: Hawkes Learning. 903 pp. ISBN: 9781642771114.

Special equipment,
materials, or library
resources needed

Special Equipment: A computer lab with at least 20 computers with Microsoft Excel and the standard suite of Microsoft Office software (Word, PowerPoint). Projector, Screen, Whiteboard.

Library resources: none required. However, it is appreciated that the WKU library makes available in eBook format the textbook "Lawal, Bayo. 2014. Applied Statistical Methods in Agriculture, Health, and Life Science. Cham (ZG), Switzerland: Springer International Publishing AG. 799 pp. ISBN 9783319055541."

Additional
information

Supporting
documentation

Reviewer Comments

Key: 10130

Course Change Request

New Course Proposal

Date Submitted: 10/24/25 2:17 pm

Viewing: **AGRI 393 : Introduction to Sustainable Agriculture**

Last revision: 10/24/25 2:17 pm

Changes proposed by: wll99339

Proposed Action

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Navdeep Singh	navdeep.singh@wku.edu	270 745 3151

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	AGRI - Agriculture - General	Course number	393
Department	Agriculture		
College	Science and Engineering		
Course title			

Introduction to Sustainable Agriculture

Abbreviated course title: INTRODUCTION TO SUSTAINABLE AG

Course description

This course provides a foundational overview of the principles, practices, and challenges of sustainable agriculture. Students will explore the historical context, core concepts, and the three pillars of sustainability (environmental, economic, and social) as they apply to agricultural systems.

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: 010000 - Agriculture, General.

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 developing the proposed course

AGRI 393 addresses a critical gap in our curriculum by establishing a foundational understanding of sustainable agriculture for the students. It provides the essential systems-thinking foundation and core principles needed to link fundamental agricultural concepts with advanced, specialized courses. As the job market and agricultural sector increasingly demand sustainability-literate graduates, this course ensures our students are competitive and prepared to address 21st-century challenges in food production.

Is this related to other courses at WKU?

No

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

N/A

How many sections of this course per academic year will be offered?

2

How many students per section are expected to enroll in this proposed course?

40

How many students per academic year are expected to enroll?

80

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:

Based on past student enrollment and anticipation that this course will be added to the required Agriculture coursework

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	Define the core principles of sustainable agriculture
2	Identify the economic, social, and environmental challenges facing the food production system and how sustainable agriculture aims to address them.
3	Analyze case studies of different farm operations to evaluate their alignment with principles of sustainable agriculture.

Content outline

#	Topic
1	1. Sustainability and the Three Pillars 2. Challenges in Food Production System 3. Resource Stewardship in Agroecosystems 4. Agricultural Biodiversity and Ecosystem Services 5. Climate Change and Agriculture 6. Economics Resilience and Farm Viability 7. Food Systems and Supply Chains 8. Social Equity and Food Justice 9. Sustainable Pest and Nutrient Management 10. Integrated Farming Systems 11. Analyzing Farm Case Studies 12. Future Challenges and Innovations

Student expectations and requirements

Tentative texts and course materials

None

Special equipment, materials, or library resources needed

N/A

Additional information

Supporting documentation

Reviewer Comments

Key: 10126

Course Change Request

New Course Proposal

Date Submitted: 10/26/25 1:13 pm

Viewing: **ANSC 310 : Principles of Meat Science**

Last revision: 10/26/25 1:13 pm

Changes proposed by: wll99339

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Luiz Silva	luiz.silva@wku.edu	6038660764

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	310
Department	Agriculture		
College	Science and Engineering		
Course title			

Principles of Meat Science

Abbreviated course title: PRINCIPLES OF MEAT SCIENCE

Course description

This course provides a comprehensive foundation in the scientific principles underlying meat quality, safety, and nutritional value. Students will also learn about the steps involved in animal slaughter and biochemical transformations that occur as muscle is converted into meat.

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: 010906 - Livestock Management.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	ANSC 140	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

This course covers the basic science and theory behind meat quality and processing so students have the background knowledge they need to do hands-on work with carcass evaluation, fabrication, and product development in the advanced courses that follow.

Is this related to other courses at WKU?

No

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

N/A

How many sections of this course per academic year will be offered?

1

How many students per section are expected to enroll in this proposed course?

30

How many students per academic year are expected to enroll?

30

How were these projections calculated? Explain any supporting evidence/data you

have for arriving at these projections:

Currently, I have been teaching a Meat Science (ANSC 340- Meat and Meat products) course every semester with an average enrollment of 15 students (30/ year). Therefore, I expect the same enrollment for this course.

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	Explain postmortem biochemical changes and their effects on meat quality
2	Describe principles of meat microbiology and food safety
3	Describe the regulatory framework and HACCP principles
4	Identify pre-harvest and post-harvest factors affecting meat quality
5	Explain meat color chemistry and preservation

Content outline

#	Topic
1	History and Overview of the Meat Industry
2	Cultural and ethical aspects of animal processing
3	Nutritional Value (Nutrition Label Interpretation)
4	Muscle structure and function
5	Animal Harvesting
6	Postmortem Biochemistry: Muscle-to-Meat Conversion
7	Meat Organoleptic Quality Traits
8	Principles of Meat Microbiology
9	Regulations, HACCP Plan, and Food Safety

Student expectations and requirements

Tentative texts and course materials

Toldra Fidel (2017) Lawrie's Meat Science. 8th Edition, Woodhead Publishing Limited Ltd., Abington, UK. ISBN: 978-0-08-100694-8

Special equipment, materials, or library resources needed

None

Additional information

Supporting documentation

Reviewer Comments

Key: 10118

Course Change Request

New Course Proposal

Date Submitted: 10/26/25 1:18 pm

Viewing: ANSC 420 : Meat Processing

Last revision: 10/26/25 1:18 pm

Changes proposed by: wll99339

Proposed Action

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Luiz Silva	luiz.silva@wku.edu	270 745 3151

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	420
Department	Agriculture		
College	Science and Engineering		
Course title			

Meat Processing

Abbreviated course title: MEAT PROCESSING

Course description

This course focuses on the principles and practices of meat processing, including product formulation, preservation technologies, food safety, ingredient functionality, and regulatory compliance.

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: 010906 - Livestock Management.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	ANSC 310	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

This new course will provide an opportunity for students who want to advance their knowledge in Meat Science while learning about meat processing.

Is this related to other courses at WKU?

No

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

N/A

How many sections of this course per academic year will be offered?

1

How many students per section are expected to enroll in this proposed course?

25

How many students per academic year are expected to enroll?

25

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:

I expect that most of the students that take ANSC 310 will be willing to take this course.

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	Identify the importance of meat protein functionality for meat products.
2	Apply preservation technologies and the hurdle concept
3	Operate processing equipment safely and effectively
4	Identify regulatory requirements for processed meats

Content outline

#	Topic
1	Overview of the processed meat industry
2	Preservation Principles and Hurdle Technology
3	Food Safety and Sanitation Procedures
4	Processing Equipment Overview
5	Meat Chemistry (pH, water activity, protein extraction, oxidation, and browing reaction)
6	Non-Meat Ingredients and formulation
7	Thermal Processing Principles
8	Types of processed meat products

Student expectations and requirements

Tentative texts and course materials

Hui, Y. H. (Ed.). (2012). Handbook of meat and meat processing (2nd ed.). CRC Press. https://doi.org/10.1201/b11479

Special equipment, materials, or library resources needed

None

Additional information

Supporting documentation

Reviewer Comments

Key: 10119

Course Change Request

New Course Proposal

Date Submitted: 10/26/25 11:07 am

Viewing: **ANSC 480 : Digestive Anatomy of Ruminant Animals**

Last revision: 10/26/25 11:07 am

Changes proposed by: wll99339

Proposed Action

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Phillip Gunter	phillip.gunter@wku.edu	2707455958

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	480
Department	Agriculture		
College	Science and Engineering		
Course title			

Digestive Anatomy of Ruminant Animals

Abbreviated course title: DIGESTIVE ANATOMY OF RUMINANT

Course description

Provide students with an in-depth understanding of the physiology, microbiology, digestion, and metabolism of the ruminant digestive system.

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: 010302 - Animal/Livestock Husbandry and Production.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 345	D	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

Expand the Department of Agriculture's animal nutrition focus to include an in-depth, comprehensive look at the unique anatomy and digestive processes of the ruminant animal.

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.

NA

How many sections of this course per academic year will be offered?

1

How many students per section are expected to enroll in this proposed course?

20

How many students per academic year are expected to enroll?

20

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:

Departmental averages for upper division, more specialized classes generally range around this value.

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 anatomy and physiological development of the rumen and associated digestive structures in ruminant species.
2	Evaluate the processes of rumen fermentation, including microbial roles in carbohydrate, lipid, and nitrogen metabolism
3	Evaluate the impact of dietary composition on microbial protein synthesis, ruminal degradability, and post-absorptive nutrient use.
4	Assess the causes and physiological mechanisms underlying metabolic disorders such as acidosis, ketosis, and bloat.

Content outline

#	Topic
1	Introduction Anatomy and Development of the Rumen Rumen Motility and Digesta Passage Intake Regulation and Feeding Behavior Rumen Microbiology Fermentation Pathways and VFA Production Carbohydrate Metabolism and Bioenergetics Protein and Amino Acid Metabolism Lipid Metabolism Metabolic Disorders

Student expectations and requirements

Tentative texts and course materials

The Ruminant Animal Digestive Physiology and Nutrition. D.C. Church 1988.
Most course materials provided by instructor.

Special equipment, materials, or library resources needed

None

Additional information

Supporting documentation

Reviewer Comments

Key: 10112

Course Change Request

New Course Proposal

Date Submitted: 09/30/25 3:28 pm

Viewing: **PLSS 413 : Turf Application Systems & Pest Management**

Last revision: 09/30/25 3:28 pm

Changes proposed by: plb36852

Proposed Action

In Workflow

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

Approval Path

1. 09/30/25 3:27 pm Paul Woosley (paul.woosley): Rollback to Initiator
2. 09/30/25 3:29 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
3. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Paul Woosley	paul.woosley@wku.edu	270-745-3151

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences	Course number	413

Department Agriculture

College Science and Engineering

Course title
Turf Application Systems & Pest Management

Abbreviated course title TURF APPL SYStem & Pest MGT

Course description
Study of turfgrass pests and control strategies with emphasis on safe pesticide use. Includes calibration and operation of application equipment and hands-on training in effective, environmentally responsible practices.

Credit hours 3

Repeatable
Yes
Number of repeats 3
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 010000 - Agriculture, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	PLSS 110	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? Yes

Select:
Include

Classification:

Classification restriction
Junior

Departmental Restrictions

Reason for developing the proposed course
Proper application of pesticides is important in the turfgrass industry. It is also imperative that students be able to identify and learn how to control pests in this field. These concepts were covered as part of three different courses in the past. With faculty taking on different administrative roles within the department, more efficiency in course offerings was needed. Taking the most important concepts of these three courses to develop a single new course will best serve our students and faculty.

Is this related to other courses at WKU?
No

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

N/A

How many sections of this course per academic year will be offered?
One

How many students per section are expected to enroll in this proposed course?
15

How many students per academic year are expected to enroll?
15

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:
Projections were based upon number of students in horticulture and turfgrass mgt concentrations within the department.

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	Identify major turfgrass pests, including weeds, insects, and diseases, and classify them by type and impact on turf systems.
2	Demonstrate proper calibration of pesticide application equipment to ensure accurate and efficient delivery.
3	Apply integrated pest management (IPM) strategies to real-world turf scenarios.
4	Evaluate pesticide labels, safety data, and regulations to ensure compliance with legal and environmental standards.
5	Develop a turfgrass pest management plan that integrates cultural, mechanical, biological, and chemical control methods.

Content outline

#	Topic
1	Module 1: Introduction to Turfgrass Pest Management Overview of turfgrass systems and management goals

#	Topic
	Principles of Integrated Pest Management (IPM) Economic and environmental impacts of pests
2	Module 2: Turfgrass Weeds Weed identification and classification Life cycles and growth habits Cultural, mechanical, and chemical control methods
3	Module 3: Turfgrass Insects Major insect pests of turf (chewing, sucking, root feeders) Damage symptoms and thresholds Monitoring, biological controls, and chemical options
4	Module 4: Turfgrass Diseases Common fungal, bacterial, and abiotic diseases Environmental conditions influencing disease outbreaks Diagnostic tools and management practices
5	Module 5: Pesticide Fundamentals Pesticide types, modes of action, and resistance management Reading and interpreting pesticide labels and safety data sheets (SDS) Legal and regulatory considerations (EPA, state regulations)
6	Module 6: Equipment Calibration and Operation Types of turf application equipment (sprayers, spreaders, injectors) Calibration principles and step-by-step procedures Hands-on practice with equipment calibration Maintenance, troubleshooting, and cleaning

#	Topic
7	Module 7: Safe Handling and Application Personal protective equipment (PPE) and worker safety Mixing, loading, and storage procedures Drift management and environmental protection Spill response and emergency procedures
8	Module 8: Integrated Turfgrass Pest Management Plans Developing site-specific management strategies Case studies in athletic fields, golf courses, and lawns Balancing efficiency, safety, and sustainability Emerging technologies in turf application systems

Student expectations and requirements

Tentative texts and course materials

Managing Turfgrass Pest by Watschke, Dernoeden, and Shetlar
Mathematics of Turfgrass Maintenance by Christians and Agnew

Special equipment, materials, or library resources needed

N/A

Additional information

Supporting documentation

Reviewer Comments

Paul Woosley (paul.woosley) (09/30/25 3:27 pm): Rollback: Change implementation date

Key: 10070

Course Change Request

Date Submitted: 10/24/25 12:33 pm

Viewing: AGEC 360 : Agricultural Economics

Last approved: 12/12/23 10:09 am

Last revision: 10/24/25 12:33 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Economics (AGEC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Stephen King	Stephen.King2@wku.edu	270-745-3151 ~~270-745-5964~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:34 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:30 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) AGEC - Agricultural Economics

Course number 360

Department Agriculture

College Science and Engineering

Course title
Agricultural Economics

Abbreviated course title AGRIC ECONOMICS

Course description
An introduction to the private and public sector of the United States economy. Identification of the resources used in agriculture. Elementary application of economic principles to resource use in agriculture. Lecture, three hours.

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 010103 - Agricultural Economics.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AGEC 160	D	UG		No
Or		ECON 150	D	UG		No
Or		ECON 202	D	UG		No

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
Or		ECON 203	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

AGEC 360 existed prior to AGEC 160. AGEC 160 is now the entry principles agricultural economics and business course within the Department of Agriculture and Food Science. Students who take ECON 150, 202, or 203 will also gain the necessary prerequisite knowledge to do well in AGEC 360. ~~Add course objectives and 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.

David Zimmer, david.zimmer@wku.edu, Economics Department, 10/24/2025. ~~N/A~~

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 history of the discipline of agricultural economics;
2	Describe the U.S. food and fiber industry
3	Describe the role of government in agriculture and the general economy
4	Explain and apply consumer behavior
5	Explain and apply producer behavior
6	Graph and analyze market equilibrium
7	Name, analyze, and evaluate macroeconomic policy goals

Content outline

#	Topic
1	Course Introduction
2	What is Agricultural Economics?
3	Prominent Economists and the History of Agricultural Economics
4	Role of Government and Agriculture
5	The U.S. Food and Fiber Industry
6	Consumer Behavior, Consumer Equilibrium and Demand, and Measurement and Interpretation of Elasticities
7	Introduction to Production and Resource Use, and Economics of Input and Product Substitution
8	Market Equilibrium and Product Price Perfect Competition, Imperfect Competition, and Government Regulatory Measures
9	Macroeconomics

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 148

Course Change Request

Date Submitted: 10/24/25 12:34 pm

Viewing: AGEC 361 : Farm Management

Last approved: 12/12/23 10:09 am

Last revision: 10/24/25 12:34 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Economics (AGEC)

Agricultural Economics (AGEC)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Dominique Gumirakiza	dominique.gumirakiza@wku.edu	2707455959

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:35 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:30 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) AGEC - Agricultural Economics

Course number 361

Department Agriculture

College Science and Engineering

Course title
Farm Management

Abbreviated course title FARM MANAGEMENT

Course description
Organizing and managing farms; factors affecting farm earnings; resource allocation; combining farm enterprises, individual farm organization and farm management problem assignments and application of the principles of business to farming are stressed.

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 010103 - Agricultural Economics.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AGEC 160 ~~360~~	C ~~D~~	UG		No ~~Yes~~
Or		AGEC 261	C	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Change the prerequisite from AGEC 360 to AGEC 160 and better listing of Course Outline. Add AGEC 261 as an alternative prerequisite. Students are required to earn a minimum of grade C in the prerequisite course prior to enrolling in this course. ~~Add course objectives and 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.

N/A

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 functions of farm management process.

#	Student Learning Outcomes
2	Explain steps involved in the farm-related decision-making process.
3	Prepare a complete diagnosis of farm-related problems/issues.
4	Analyze farm financial statements to measure management performance.
5	Formulate farm/ranch enterprise budgets.
6	Conduct linear programming and make a whole farm budget for profit optimization.
7	Demonstrate improved management skills necessary to manage a farm/ranch successfully.

Content outline

#	Topic
1	Part I: ~~Management.~~ ~~Week01.~~Management. Chapter ~~Chapter~~ 01: Farm management in the 21st century. Chapter 02: ~~century.~~ ~~Week 02.~~ ~~Chapter02:~~Management and decision making. Part ~~making.~~ ~~Part~~ II: Measuring Management Performance. Chapter 03: ~~Performance.~~ ~~Week 03.~~ ~~Chapter03:~~Acquiring and organizing management information. Chapter 04: ~~information.~~ ~~Week 04.~~ ~~Chapter04:~~The balance sheet and its analysis. Chapter 05: ~~analysis.~~ ~~Week 05.~~ ~~Chapter05:~~The income statement and its analysis. Chapter 06: ~~analysis.~~ ~~Week 06.~~ ~~Chapter06:~~Farm business analysis. Part IV: ~~analysis.~~ ~~Midterm Exam 01.~~ ~~Chapters 01—06.~~ ~~PartIV:~~Budgeting for Greater Profit. Chapters 07—09: ~~Profit.~~ ~~Week 07.~~ ~~Chapters07—09:~~Economic Principles as Applicable to Farm Management. Chapter 10: ~~Management.~~ ~~Week 08.~~ ~~Chapter10:~~Enterprise budgeting. ~~Week09.~~ Chapter ~~Chapter~~ 11: Whole-farm planning. Chapter 12: ~~planning.~~ ~~Week 10.~~ ~~Chapter12:~~Partial budgeting. Chapter 13: ~~budgeting.~~ ~~Week11.~~ ~~Chapter13:~~Cash flow budgeting. Part ~~budgeting.~~ ~~Part~~ V: Improving Management Skills.

#	Topic
	Chapter 14: ~~Skills.~~ ~~Week12. Chapter14:~~Farm business organization and transfer. Chapter 15: ~~transfer.~~ ~~Week 13. Chapter15:~~Managing risk and uncertainty. ~~uncertainty.~~ ~~Midterm Exam 02. Chapters 10—15~~ ~~Week 15.Oral presentations of class projects.~~

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 149

Course Change Request

Date Submitted: 10/24/25 12:35 pm

Viewing: AGEC 362 : Agricultural Marketing

Last approved: 12/12/23 10:09 am

Last revision: 10/24/25 12:35 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Economics (AGEC)

Department of Agriculture and Food Science

Proposed Action

In Workflow

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

Approval Path

1. 10/24/25 12:36 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:30 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Active

Contact(s)

Name	E-mail	Phone
Dominique Gumirakiza	dominique.gumirakiza@wku.edu	2707455959

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

Academic Level	Undergraduate		
Course prefix (subject area)	AGEC - Agricultural Economics	Course number	362
Department	Agriculture		
College	Science and Engineering		

Course title
Agricultural Marketing

Abbreviated course title: AGRIC MARKETING

Course description
Included are principles and methods of marketing farm products; institutions performing the various functions in marketing specific commodities; market prices; marketing costs; elementary treatment of cooperative marketing.

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: 010103 - Agricultural Economics.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AGEC 160 ~~360~~	C	UG		No ~~Yes~~
Or		MKT 220	C	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Change the prerequisite from AGEC 360 to AGEC 160 or MKT 220 (course outside of department) and better listing of topics in the course outline. Students are required to earn a minimum of grade C in the prerequisite course prior to enrolling in this course. ~~Add course objectives and 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.

N/A

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 framework of the agricultural marketing.
2	Explain functions of agricultural marketing.

#	Student Learning Outcomes
3	Explain forces of demand and supply and how they affect market prices and quantities.
4	Analyze agricultural and food markets; both domestic and international.
5	Identify food markets and institutions.
6	Discuss agribusiness marketing mix and its use in developing marketing strategies for differentiated products.
7	Develop a strategic marketing plan for farm commodities and/or food products.
8	Formulate an agricultural commodity price analysis and predictions.
9	Conduct an agricultural market research/study.

Content outline

#	Topic
1	~~Week01:Basic Principles ofAgrimarketing.MarketAnalysis.Strategic Marketing Plan.~~ ~~Week02.~~Chapter 00: ~~01.~~ Basic Principles of Agricultural marketing. Chapter 01: ~~Agrimarketing.~~ Agricultural Marketing: An Introduction. ~~Week03.~~ Chapter ~~Chapter~~ 02: Competitive Environment. Chapter 03: ~~Environment.~~ ~~Week 04.~~ ~~Chapter03:~~Functions, Structure, and Alternatives in the Agricultural Marketing System. Chapter 04: ~~System.~~ ~~Week 05.~~ ~~Chapter04:~~Price determination: Matching quantities supplied and demanded. Chapter 05: ~~demanded.~~ ~~Week 06.~~ ~~Chapter05:~~The Domestic Market: A Developed Economy. Chapter 06: ~~Economy.~~ ~~Week 07.~~ ~~Chapter06:~~International Agricultural marketing. Chapter 07: ~~marketing.~~ ~~Week 08.~~ ~~Chapter07:~~Pricing, exchange systems, and alternatives in marketing-procurement channel. Chapter 08: ~~channel.~~ ~~Week 09.~~ ~~Chapter08:~~Providing the optimum varieties and qualities. Chapter 09: ~~qualities.~~ ~~Week 10.~~ ~~Chapter09:~~Place and Time Aspects of Marketing. Chapter 10: ~~Marketing.~~ ~~Week 11.~~ ~~Chapter10:~~Understanding and applying hedging using Futures, Options, & Basis. Chapter 11: ~~Basis.~~ ~~Week 12.~~ ~~Chapter11:~~Participation and Leadership in the Marketing Procurement Channels. Chapter 12: ~~Channels.~~ ~~Week 13.~~ ~~Chapter12:~~Marketing by Farmer Groups: Collective Action. Chapter 13: ~~Action.~~ ~~Week 14.~~ ~~Chapter13:~~Processor Procurement System. Chapter 14: ~~System.~~ ~~Week 15.~~ ~~Chapter14:~~Processor Marketing.

#	Topic
	~~Marketing.~~ ~~Week 16. Class Project Paper Is Due.~~

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 150

Course Change Request

Date Submitted: 10/24/25 12:36 pm

Viewing: AGEC 366 : Agricultural Sales ~~and Services~~

Last approved: 12/12/23 10:09 am

Last revision: 10/24/25 12:36 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Economics (AGEC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Dominique Gumirakiza	dominique.gumirakiza@wku.edu	2707455959

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:37 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:30 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): AGEC - Agricultural Economics

Course number: 366

Department: Agriculture

College: Science and Engineering

Course title

Agricultural Sales ~~and Services~~

Abbreviated course title: AGRICULTURAL SALES ~~AGRIC SALES/SERVICE~~

Course description

The course empowers students with a detailed discussion of principles, techniques, and procedures for professional business-to-business selling process as it relates to agricultural input and output sectors. ~~Exploration, investigation and application of principles and concepts of sales and service applied toagriculture.~~A credit and personal improvement course designed for ~~agri-business and educators working with sales and service of~~ agricultural students interested in sales in agriculture industry. ~~inputs and products. Note:Consent 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: 010103 - Agricultural Economics.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGEC 160	C	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No ~~Yes~~

Departmental Restrictions

Reason for changing the course

Revise the course title from "Agricultural Sales and Service" to "Agricultural Sales" and course description to better reflect the course content. Replace prior restrictions with AGEC 160 being a prerequisite. Update the list of course outline topics. ~~Add course objectives and 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.

N/A

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	Illustrate and explain the professional Business-To-Business (B2B) selling process.
2	Discuss the relationship (similarities and differences) between agricultural marketing and agricultural sales.
3	Strategize and plan for professional selling at different institutional levels.
4	Describe the buying decision process, identify various types of customers, and discuss their communication styles.
5	Develop skills to build professional Business-To-Business (B2B) selling competencies.
6	Evaluate to discover customer beliefs, goals, and needs.
7	Identify and analyze the potential customers for agricultural products and their characteristics/profiles.
8	Communicate the value proposition, handle customer questions and objections, and deal with customer resistance.
9	Discuss closing strategies and specific closing techniques.
10	Measure, monitor, and strategize for customer satisfaction.
11	Demonstrate ability to use tips and tools from the “Best of the Best” sales professionals.
12	Construct professional agricultural sales presentations.

Content outline

#	Topic
1	~~Week01.~~Chapter 01: Food and agricultural sales as a professional process. Chapter 02: ~~profession.~~ ~~Week 02.~~ ~~Chapter02:~~Relationship between sales and marketing. Chapter 03: ~~marketing.~~ ~~Week 03.~~ ~~Chapter03:~~Sales call strategy. Chapter 04: ~~strategy.~~ ~~Week 04.~~ ~~Chapter04:~~Finding potential (prospecting) customers. Chapter 05: ~~customers.~~ ~~Week 05.~~ ~~Chapter05:~~Why and how people and business buy. Chapter 06: ~~buy.~~ ~~Week 06.~~ ~~Chapter06:~~The professional food and agricultural sales presentation. Chapter 07: ~~presentation.~~ ~~Midterm Exam 1 (Chapters 01-05).~~ ~~Week 07.~~ ~~Chapter07:~~Probing to identify needs, beliefs, and goals. Chapter 08: ~~goals.~~ ~~Week 08.~~ ~~Chapter08:~~Communicating value—Detailing the product. Chapter 09: ~~product.~~ ~~Week 09.~~ ~~Chapter09:~~Handling customer questions and objections.

#	Topic
	~~Week10.~~ Chapter ~~Chapter~~ 10: Closing (confirming) the sales. Chapter 11: ~~sales.~~ ~~Week 11.~~ ~~Chapter11:~~Establishing customer value through follow-up activities. Chapter 12: ~~activities.~~ ~~Week 12.~~ ~~Chapter12:~~Professional tips from the best salespeople. ~~salespeople.~~ ~~Week 13: Professional presentations.~~ ~~Midterm Exam 2 (Chapters 06-12).~~ ~~Final Week.Class Project Due.~~

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 152

Course Change Request

Date Submitted: 10/24/25 12:37 pm

Viewing: AGEC 463 : Agriculture Finance

Last approved: 12/15/23 1:35 pm

Last revision: 10/24/25 12:37 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Economics (AGEC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Stephen King	Stephen.King2@wku.edu	270-745-3151 ~~270-745-5964~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:38 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 15, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) AGEC - Agricultural Economics

Course number 463

Department Agriculture

College Science and Engineering

Course title
Agriculture Finance

Abbreviated course title AGRICULTURAL FINANCE

Course description
Farm finance problems, credit institutions, capital requirements, investment decisions, budgeting techniques, operation of lending agencies and alternative means of acquiring capital are studied. Note: Permission of instuctor 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 010103 - Agricultural Economics.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	AGEC 261 ~~361~~	D ~~C~~	UG		No ~~Yes~~
Or		ACCT 200	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

AGEC 361 was the prerequisite for AGEC 463 primarily for its coverage of financial statements. AGEC 261 Agricultural Accounting is a newer and required course in the Agribusiness Concentration which covers financial statements and is now the more appropriate prerequisite. Students outside of agriculture who have taken ACCT 200 will have also gained the prerequisite knowledge. ~~Add course objectives and 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.

GFCB Accounting, Stacy Bibelhauser, PhD, CPA, stacy.bibelhauser@wku.edu, 10/24/2025. ~~N/A~~

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	Identify the financial functions and activities of an agricultural business and explain how these functions and activities are related to production, marketing, and consumption.
2	Construct and use the four primary financial statements (balance sheet, income statement, statement of owner equity, and statement of cash flows) for reporting business performance, satisfying legal and tax obligations, forecasting, and making effective and efficient managerial decisions.
3	Design an effective and efficient financing program for an agricultural business.
4	Identify, measure, mitigate, and manage risk, particularly those types of risk associated with the credit and finance of an agricultural business.
5	Use investment analysis methods of simple rate-of-return, payback period, net present value, internal rate of return, and modified internal rate of return to accept or reject investment projects and rank mutually exclusive investment alternatives.
6	Identify and evaluate the sources of land price information and the approaches used to estimate land values.
7	Identify and distinguish between the various types of leases used in agriculture for both real estate and non-real estate assets.
8	Evaluate whether it is more cost effective to buy or lease an agricultural asset.

Content outline

#	Topic
1	Course Introduction
2	Nature and Scope of Financial Management
3	Financial Statements and Information Flow
4	Financial Analysis and Control
5	Financial Planning and Feasibility Analysis
6	Mid-Term Exam
7	Credit Risk Assessment and Lender Borrowing Relationships
8	Capital Structure, Leverage, and Financial Risk
9	Risk Management
10	Time Value of Money
11	Investment Analysis
12	Ownership and Leasing of Farmland
13	Leasing Non-Real Estate Assets
14	Final Exam

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 159

Course Change Request

Date Submitted: 10/24/25 12:40 pm

Viewing: AGED 200 : Foundations of Agricultural Education

Last approved: 12/05/23 3:18 am

Last revision: 10/24/25 12:40 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Education (AGED)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

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

Review Type Full Review ~~Expedited~~

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. Course Inventory

Approval Path

1. 10/24/25 12:40 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 5, 2023 by William Willian (todd.willian)

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	AGED - Agricultural Education	Course number	200
Department	Agriculture		
College	Science and Engineering		

Course title

Foundations of Agricultural Education

Abbreviated course title: FOUNDATIONS AG EDUCATION

Course description

History and foundation of agricultural education and career and technical education. Includes tools to promote, oversee, and evaluate agricultural education activities in grades 7-12.

Credit hours: 3 ~~1~~

Repeatable

Yes

Number of repeats: 2

For maximum credits: 3 ~~1~~

Default grade type: Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

~~Lecture~~

Lecture/Lab

CIP Code: 131301 - Agricultural Teacher Education.

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

The students in the course for past several years are asking for the class to be three credits instead of one. They feel the course work merits a change. They also would like the option of lab work to be completed when they are enrolled in the class. They feel if they can get more practice in lab practicum sooner, it would help them become more efficient at teaching labs in the student teaching semester. ~~Add course objectives and outlines.~~

Is this related to other courses at WKU?

No

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

N/A

Is this course part of a program that leads to teacher certificate?	Yes
Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Evaluate the history and foundations for agricultural education from the extension clubs up to postmodern times with eighty percent accuracy.
2	Demonstrate teacher tools that are used in delivering instruction in agricultural education in grades seven through twelve on a weekly basis with eighty percent acceptance rate.

#	Student Learning Outcomes
3	Describe the historical development and philosophical foundations of agricultural education. This includes understanding the different theories and approaches to agricultural education, as well as the role of agricultural education in society.
4	Identify and analyze the components of a comprehensive agricultural education program. This includes understanding the different types of agricultural education programs, the different curriculum areas, and the different instructional methods and strategies used in agricultural education.
5	Develop the skills and knowledge necessary to teach agricultural education. This includes developing skills in lesson planning, classroom management, assessment, and student development.
6	Develop the skills and knowledge necessary to be a successful agricultural educator. This includes developing skills in leadership, communication, and professionalism.
7	Evaluate and execute the new teacher lesson plan outline and ensure comprehension from all students in the class.
8	Understanding the SAE For All for agricultural education students.
9	Identify your roles as a teacher in the classroom setting in relation to agriculture in your community.
10	Understanding the AGED pathways offered in Kentucky that lead to EOP assessments.

Content outline

#	Topic
1	AGED 200 Course Outline Week 1 – History of agricultural education in America. Week 2 – Extension and knowledge transfer of agricultural education in America. Week 3 – Legislation founding agricultural education in America. Week 4 – Smith- Hughes Act and its connection to agricultural education. Week 5 – What is Ag. Ed. in public schools? Week 6 – Planning the Ag. Ed. program in public education. Week 7 – Teacher roles in the Ag. Ed. program. Week 8 – What makes a good Ag. Ed. teacher? Week 9 – Teacher roles and responsibilities in Ag.Ed. Week 10 – Teacher roles as an advisor. Week 11 – SAE commitments in the Ag. Ed. program. Week 12 – Public educator and state standards in Ag. Ed. Week 13 – Teacher techniques and styles. Week 14 – Verbal and non-verbal teaching techniques. Week 15 - Mini teach 1 Week 16 – Mini teach 2

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 170

Course Change Request

Date Submitted: 10/24/25 12:43 pm

Viewing: AGED 471 : Laboratory Design ~~Organization~~ and Instructional Delivery Strategies ~~Planning~~ in Agricultural Education

Last approved: 12/05/23 3:18 am

Last revision: 10/24/25 12:43 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Education (AGED)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

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

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. Course Inventory

Approval Path

1. 10/24/25 12:43 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Mar 26, 2022 by Thomas Kingery (thomas.kingery)
2. Dec 5, 2023 by William Willian (todd.willian)

Review Type	Full Review ~~Expedited~~
Term for implementation	Fall 2026
Academic Level	Undergraduate
Course prefix (subject area)	AGED - Agricultural Education
Course number	471
Department	Agriculture
College	Science and Engineering
Course title	Laboratory Design ~~Organization~~ and Instructional Delivery Strategies ~~Planning~~ in Agricultural Education
Abbreviated course title	Laboratory design and instruct ~~ORGANIZATION/PLAN AG ED~~

Course description

A teacher preparation course designed to prepare pre-service teachers for the student teaching experience and for a full-time teaching position. Unit planning, lesson preparation, laboratory design, and laboratory delivery comprise the major portion of this course. Note: Admission to student teaching required.

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

Applied Learning

CIP Code 131301 - Agricultural Teacher Education.

Does this course have prerequisites

Yes

Prerequisites

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

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updating the title and description for departmental curriculum review. ~~Add course objectives and 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.

N/A

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

Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Develop teacher calendars for lesson plans, laboratory ~~plans~~ and implementation.
2	Plan semester lab activities for potential course they may teach which include: Agriculture Mechanics/Construction, Greenhouse Management/Horticulture, Agribusiness Management, Agriscience/ Fundamentals of Agriculture, Animal Science/Vet Science courses.
3	Write and develop laboratory instructions and implement those instructions in a laboratory setting to complete each activity.
4	Design instructions for lessons and laboratories in sequential order that meet the learning outcomes for the exercise.
5	Use knowledge, skill, and abilities from previous courses to work in a hands on environment to complete planning and organizational steps for multiple classes they may teach in secondary agricultural education classes.
6	Evaluate work based on multiple grading styles and student learner performance, needs, and abilities.

Content outline

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

#	Topic
	hours.
9	Agriculture animal science laboratory lesson planning understanding the differences of phenotype and genotype in domesticated livestock species. total time 3 hours.
10	Agriculture animal science laboratory lesson planning on expected progeny differences. Utilizing EPDS on selection and management decisions with domesticated livestock species. total time 3 hours.
11	Agriculture animal science laboratory lesson planning on animal nutrition for large and small animals. Understanding and designing animal nutrition labels for small pets and livestock. total time 3 hours.
12	Agriculture plant science laboratory lesson planning on model building for dicots and monocots. total time 3 hours.
13	Agriculture plant and science laboratory lesson planning on landscape design, selection, and maintenance for residential and commercial clients. total time 3 hours.
14	Agriculture plant and science laboratory lesson planning on floral design. total time 3 hours.
15	Agriculture education leadership laboratory lesson planning on student motivation and participation in career development events. total time 3 hours
16	Agriculture education leadership laboratory lesson planning on character development contest preparation. total time 3 hours.

Student expectations and requirements

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

Tentative texts and course materials

Methods of Teaching Agriculture, 3rd edition.

Special equipment, materials, or library resources needed

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

Additional information

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

Supporting documentation

Reviewer Comments

Key: 176

Course Change Request

Date Submitted: 10/24/25 12:44 pm

Viewing: AGED 475 : Selected Topics in Agriculture Education

Last approved: 11/28/23 3:18 am

Last revision: 10/24/25 12:44 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agricultural Education (AGED)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
thomas kingery	thomas.kingery@wku.edu	2707453515

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:44 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 28, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): AGED - Agricultural Education

Course number: 475

Department: Agriculture

College: Science and Engineering

Course title
Selected Topics in Agriculture Education

Abbreviated course title: SELECTED TOPICS IN AG ED ~~EDUCATION~~

Course description
Special topics acquaint advanced undergraduate students with scientific developments of current interest in agriculture. Appropriate topic titles are assigned. Lecture and assignments vary with credit. May be repeated with change in content. Note: Consent of instructor required.

Credit hours: 1-3

Repeatable
Yes
Number of repeats: 2
For maximum credits: 6

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: 131301 - Agricultural Teacher Education.

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

Course title change better reflects content. ~~Add course objectives and 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.

N/A

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	Assess the sustainability of agricultural production systems.
2	Apply food safety principles to their own personal and professional lives.
3	Identify and describe animal welfare standards and practices.
4	Describe different precision agriculture technologies and applications.
5	Describe different types of agricultural biotechnology products and applications.
6	Identify and describe different types of agricultural policies.
7	Apply their leadership skills to make a difference in their communities and the industry as a whole.

#	Student Learning Outcomes
8	Identify their career interests in agriculture.
9	Define equity and inclusion and explain their importance in agricultural education.

Content outline

#	Topic
1	Week 1 Introduction to the course What is agricultural education? Why is agricultural education important? Overview of the selected topics in agricultural education course Week 2 Sustainable agriculture Defining sustainable agriculture Importance of sustainable agriculture Sustainable agriculture practices Week 3 Food safety Types of foodborne illness Food safety practices in the food supply chain Applying food safety principles to personal and professional lives Week 4 Animal welfare Defining animal welfare Animal welfare standards and practices Assessing animal welfare in different production systems Week 5 Precision agriculture Defining precision agriculture Benefits of precision agriculture Precision agriculture technologies and applications Week 6 Agricultural biotechnology Defining agricultural biotechnology Potential benefits and risks of agricultural biotechnology Types of agricultural biotechnology products and applications Week 7 Agribusiness Defining agribusiness

#	Topic
	Importance of agribusiness in the food supply chain Types of agribusiness businesses Applying agribusiness principles and practices to personal and professional lives Week 8 Agricultural policy Defining agricultural policy Impact of agricultural policy on the industry Types of agricultural policies Advocating for interests in the agricultural policy process Week 9 Leadership development Defining leadership Importance of leadership in agriculture Identifying and developing leadership skills Applying leadership skills to make a difference Week 10 Career and technical education Identifying career interests in agriculture Developing skills for success in chosen careers Transitioning from school to the workforce Week 11 Equity and inclusion Defining equity and inclusion Importance of equity and inclusion in agricultural education Identifying and challenging biases in agricultural education Creating a more inclusive environment for all students Week 12 Final project presentations

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 178

Course Change Request

Date Submitted: 10/28/25 9:53 am

Viewing: AGRI 175 : College Foundations for Agriculture ~~University Experience - Agriculture~~

Last approved: 10/28/25 9:04 am

Last revision: 10/28/25 9:53 am

Changes proposed by: plb36852

Catalog Pages referencing this course

Agriculture - General (AGRI)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Paul Woosley	paul.woosley@wku.edu	(270) 745-3151

Review Type Full Review ~~Expedited~~

In Workflow

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

Approval Path

1. 10/28/25 9:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 28, 2023 by William Willian (todd.willian)
2. Oct 28, 2025 by Jessica Dorris (jessica.dorris)

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	AGRI - Agriculture - General	Course number	175
Department	Agriculture		
College	Science and Engineering		

Course title

College Foundations for Agriculture ~~University Experience - Agriculture~~

Abbreviated course title: COLLEGE FOUND for ag ~~UNIVERSITY EXPER-AGRI MAJORS~~

Course description

Designed to develop academic skills and library research skills, to foster personal development, and to provide information about campus resources, thus empowering students to have a successful transition to the higher education experience.

Credit hours: 1

Repeatable

Yes

Number of repeats: 2

For maximum credits: 1

Default grade type: Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Seminar

CIP Code: 320101 - Basic Skills and Developmental/Remedial Education, General.

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

Changing Title more accurately reflects content of the course.

Is this related to other courses at WKU?

No

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

N/A

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	Recognize academic regulations and requirements.
2	Construct an academic schedule, including a 4-year plan.
3	Discuss pertinent skills including time management, personal finance and study habits.
4	Examine key software including Blackboard, TopNet, and Degree Works.

Content outline

#	Topic
1	I. Introduction II. Review of pertinent academic policies and regulations III. Meeting the departmental faculty and discussing AG concentration areas IV. Constructing an academic schedule and 4-year plan V. The Power of Habit VI. Time Management tips VII. Study Habits and Tutoring options VIII. Personal finance and budgeting IX. Blackboard X. TopNet XI. Schedule Planner and Degree Works XII. Finish up

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 244

Course Change Request

Date Submitted: 10/24/25 1:30 pm

Viewing: **AGRI 391 ~~291~~ : Agricultural Statistics ~~Introduction to Data Analysis and Interpretation~~**

Also listed as: ~~**AGRI 291**~~

Formerly known as: **AGRI 291**

Last approved: 11/28/23 3:18 am

Last revision: 10/24/25 1:30 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

AGRI 291:

Agriculture - General (AGRI)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Stephen King	stephen.king2@wku.edu	(270) 745-3151

Review Type Full Review ~~Expedited~~

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:31 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Jan 23, 2023 by Jessica Dorris (jessica.dorris)
2. Nov 28, 2023 by William Willian (todd.willian)

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): AGRI - Agriculture - General

Course number: 391 ~~291~~

Department: Agriculture

College: Science and Engineering

Course title

Agricultural Statistics ~~Introduction to Data Analysis and Interpretation~~

Abbreviated course title: AGRICULTURAL STATISTICS ~~INTRO DATA ANALYSIS~~

Course description

Application of scientific method in acquiring new knowledge, interpretation of statistical research data; application of statistical concepts. Lecture and Laboratory.

Credit hours: 2 ~~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~~

Lecture

CIP Code: 010000 - Agriculture, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	MATH 116	D	UG		No ~~Yes~~

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
Or		MA 116C	D	UG		No ~~Yes~~
Or		MATH 116E	D	UG		No ~~Yes~~
Or		MATH 115	D	UG		
Or		MATH 115E	D	UG		
Or		MA 115C	D	UG	)	

Corequisites

AGRI 392 - Agricultural Statistics Lab

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Currently the Department of Agriculture and Food Science requires that its students earning a BS in Agriculture (508) complete AGRI 291 or AGRI 491, which are both 3-credit hour courses. It is proposed be revise AGRI 291 into a 2-credit hour lecture course (AGRI 391 Agricultural Statistics) and create a new 1-credit hour lab course (AGRI 392 Agriculture Statistics Lab). These changes should improve the career readiness of our students. The name change for the course series from Introduction to Data Analysis to Agricultural Statistics is proposed to better reflect course content and helps reduce paperwork, particularly for WKU students applying to veterinary medicine school. The course number changes from AGRI 291 to AGRI 391 (lecture) with the new AGRI 392 (lab) better reflects the level of content covered in the courses. Please note the co-requisite for the new AGRI 392 will be AGRI 391. ~~Addition of course objectives and a course 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.

Mathematics Department, Dr. Kanita DuCloux, Department Chair, Associate Professor, kanita.ducloux@wku.edu, 10/24/2025 ~~N/A~~

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	Manage data entry, data management, and methods of summarizing data.
2	Describe data analysis, hypothesis testing, and analysis of functional relationships.
3	Describe methods for documenting and communicating research results involving data.
4	Use statistical analysis software and handheld calculators.

Content outline

#	Topic
1	Introduction ~~I.Introduction~~ ~~II.Statistical Concepts and Data~~ ~~III.Graphical and Numerical Descriptions of Data~~ ~~IV.Probability~~ ~~V.Discrete and Continuous Probability Distributions~~ ~~VI.Sampling and Sampling Distributions~~ ~~VII.Interval Estimation~~ ~~VIII.Hyphothesis Testing~~ ~~IX.Regression Analysis~~
2	Statistical Concepts and Data
3	Graphical and Numerical Descriptions of Data
4	Introduction to Probability

#	Topic
5	Discrete and Continuous Probability Distributions
6	Sampling and Sampling Distributions
7	Interval Estimation
8	Hypothesis Testing
9	Regression Analysis

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 247

Course Change Request

Date Submitted: 10/30/25 11:43 am

Viewing: AGRI 498 ~~398~~ : Senior Seminar

Also listed as: ~~AGRI 398~~

Formerly known as: AGRI 398

Last approved: 11/28/23 3:18 am

Last revision: 10/30/25 11:43 am

Changes proposed by: wll99339

Catalog Pages referencing this course

AGRI 398:

Agricultural Education (AGED)

Proposed Action

Active

Contact(s)

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

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/30/25 12:01 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 28, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): AGRI - Agriculture - General

Course number: 498 ~~398~~

Department: Agriculture

College: Science and Engineering

Course title: Senior Seminar

Abbreviated course title: SENIOR SEMINAR

Course description

Previous experiential learning experiences via internships, independent research, or study abroad, are presented orally by Senior-level students. ~~Current literature from representative journals in the field of agricultural research is reviewed orally by students.Discussion, one hour.Note:Permission of instructor may be required.~~

Credit hours: 1

Repeatable: Yes

Number of repeats: 98

For maximum credits: 98

Default grade type: Standard Letter

Alternate grade type(s):

Is this course intended to span more than one term?

No

Schedule type: Seminar

CIP Code: 010000 - Agriculture, General.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRI 369	P	UG		No
Or		AGRI 399	P	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? Yes

Select:
Exclude

Classification:

Classification restriction
Freshman
Junior
Sophomore

Departmental Restrictions

Reason for changing the course
Forthcoming departmental curriculum changes will require students to participate in an experiential learning experience. This course will continue to be required of all graduates and is being altered to add the proper pre-requisites to ensure adherence to the future requirement. ~~Addition of student learning objectives and course 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.

N/A

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~~	~~Identify and synthesize current literature from various academic sources such as professional journals, abstracts, databases and pertinent websites.~~
1 ~~2~~	Prepare and present a 12 to 15 minute oral presentation or a research poster summarizing a prior experiential learning opportunity. ~~topic specific to an agricultural sub-discipline (Agribusiness, Crop Sciences, Animal Sciences or Agricultural Education).~~
2 ~~3~~	Evaluate student performance (with a standardized rubric) based upon the following presentation categories: Mechanics and Delivery, Content Knowledge, Quality of Visuals, and Organization and Clarity.

Content outline

#	Topic
1	Introduction Professional ~~Introduction~~ ~~Literature Searches~~ ~~Abstract Preparation and Guidelines~~ ~~Professional~~ Presentation Do's and Dont's a. ~~Dont's~~ ~~Presentation Feedback~~ proper attire b. proper use of color contrast on slides c. summarizing data and/or observations d. use of laser pointer to enhance the presentation e. addressing questions from the audience Presentation Feedback from the Instructor

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 255

Course Change Request

Date Submitted: 10/24/25 2:08 pm

Viewing: AGRI 493 : Sustainable Agriculture

Last approved: 11/28/23 3:18 am

Last revision: 10/24/25 2:08 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Agriculture - General (AGRI)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Navdeep Singh	navdeep.singh@wku.edu	270-745-3244

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/27/25 7:53 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 28, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) AGRI - Agriculture - General

Course number 493

Department Agriculture

College Science and Engineering

Course title
Sustainable Agriculture

Abbreviated course title SUSTAINABLE AGRICULTURE

Course description
Effect of diminishing resources, environmental pollution, and short-term economics on the sustainability of productive agriculture. Emphasis on managing crops, livestock, and other farm resources in providing an ecological-economical balance in agricultural production. Note: Upper division standing, minimum of 18 hours in agriculture and related areas, including at least 12 hours of plant and animal production, soils, crop protection, crop improvement, economics, or ecology; or permission of instructor.

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 010000 - Agriculture, General.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRI 393	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

The proposed AGRI 393 course will be a core requirement for all Agriculture majors and will serve as a pre-requisite for students who choose to enroll in AGRI 493 as an elective. ~~Addition of course objectives and 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.

N/A

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 agriculture's dependence upon limited resources and agriculture's contribution to environmental degradation

#	Student Learning Outcomes
2	Describe conditions resulting in contamination of water, land, and air with agricultural soil, nutrients, pesticides, and waste products
3	Describe alternative farming approaches for effective management of soils, crops, livestock, water, and other agricultural resources for sustained agricultural production
4	Identify the complexities involved with transitioning to sustainable agriculture
5	Explain the ethics of responsible use of the land and other natural resources

Content outline

#	Topic
1	Agroecological Principles and Design Resilient ~~Concept of Sustainable Agriculture;~~ ~~Challenges to Agricultural Sustainability;~~ ~~Approaches to Improve Agricultural Sustainability;~~ ~~Environmental Sustainability –~~ Soil Health Management Advanced Integrated Pest Management (IPM) Water Footprint and Irrigation Efficiency Nutrient Cycling and Organic Amendments Cover Cropping and ~~Management,~~ Crop Rotation Strategies Crop-Livestock Integration Energy and Carbon Accounting on the Farm Economic Analysis of Sustainable Practices Policy and Markets for ~~Management,~~ ~~Water Management;~~ ~~Socio-economic Sustainability;~~ ~~Alternative Farming Systems – Organic Cropping Systems, Integrated Crop-Livestock Systems;~~ ~~Environmental and Socio-economic Aspects of CropLivestock Integration; Factors Affecting Transition to~~ Sustainable Food Transition Pathways for Conventional Farms Factors Affecting Transition to Sustainable Agriculture

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 266

Course Change Request

Date Submitted: 10/24/25 12:47 pm

Viewing: ANSC 232 : Fundamentals of Horsemanship and Riding ~~Basic Equitation~~

Last approved: 05/02/24 3:17 am

Last revision: 10/24/25 12:47 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

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

Review Type Full Review

In Workflow

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

Approval Path

1. 10/24/25 12:47 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)
2. May 2, 2024 by William Willian (todd.willian)

Term for implementation	Fall 2026
Academic Level	Undergraduate
Course prefix (subject area)	ANSC - Animal Science
Course number	232
Department	Agriculture
College	Science and Engineering
Course title	Fundamentals of Horsemanship and Riding ~~Basic Equitation~~
Abbreviated course title	FUNDAMENTALS OF HORSEMANSHIP A ~~BASIC EQUITATION~~

Course description

For students with little previous experience in horsemanship. Basic disciplines of hunt seat and stock seat horsemanship and selection, care and use of horses and equipment are included.

Credit hours 3

Repeatable

Yes

Number of repeats 2

For maximum credits 6

Default grade type Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code 010507 - Equestrian/Equine Studies.

Does this course have prerequisites

No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updating title to better reflect course content. ~~Additional contact hours will facilitate greater improvement in riding technique and allow for additional instruction regarding safe handling guidelines for novice equine riders.~~

Is this related to other courses at WKU?

No

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

N/A

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	Display mastery of general horsemanship skills, including tying, grooming, bathing, leading, tacking up.
2	Display a thorough understanding of safely handling and riding a horse.
3	Summarize an understanding of basic horse ownership and care, including hoof care, preventative care, management, and feeding.
4	Execute improvement in equitation in the Western or English discipline.
5	Execute mastery of riding a pattern test and using basic forms of rider communication.

Content outline

#	Topic
1	Safety around a horse
2	Basic horse grooming and care
3	Saddle and Bridle parts
4	Proper saddling and bridling
5	Horsemanship seat, maneuvering, gaits
6	Riding a pattern

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 534

Course Change Request

Date Submitted: 10/27/25 10:33 am

Viewing: ANSC 333 : Horse Training

Last approved: 11/20/21 3:13 am

Last revision: 10/27/25 10:33 am

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

In Workflow

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

Approval Path

1. 12/04/23 8:10 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 12/04/23 10:00 am Stuart Burris (stuart.burris): Rollback to Initiator
3. 10/27/25 12:04 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
4. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 20, 2021 by Paige Smith (paige.smith)

Contact(s)

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

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): ANSC - Animal Science

Course number: 333

Department: Agriculture

College: Science and Engineering

Course title
Horse Training

Abbreviated course title: HORSE TRAINING

Course description
The student is assigned a horse to train. Techniques for halter-breaking, gentling, grooming, lunging, saddling, driving and riding the untrained horse are included. Note: Approval of instructor may be required.

Credit hours: 3 ~~2~~

Repeatable
Yes
Number of repeats: 2
For maximum credits: 3 ~~2~~

Default grade type: Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type
~~Lecture~~
Lecture/Lab

CIP Code: 010507 - Equestrian/Equine Studies.

Does this course have prerequisites

Yes

Prerequisites

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

Corequisites

~~ANSC 334~~ - ~~Horse Training Laboratory~~

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updating course objectives and outline to reflect additional topics to warrant the increase in credit hours. ~~Student riding level should be evaluated (via ANSC 232) prior to placing them in a training situation in order to improve safety for the horse andrider.~~

Is this related to other courses at WKU?

No

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

N/A ~~None~~

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

Are you seeking Colonnade approval No

for this course?

Student Learning Outcomes

#	Student Learning Outcomes
1	Evaluate the temperament, physical condition and training readiness of an untrained horse to determine an appropriate and safe training approach.
2 ~~1~~	Assess a horse's current training level on the ground and under saddle to determine level of training needed.
3 ~~4~~	Recognize horse behavior to safely apply training methods.
4 ~~3~~	Identify collection and how to apply the concept.
~~4~~	~~Create a video of a horse training method.~~
5	Critically appraise an untrained horses behavioral responses during initial handling to make informed judgements about training progression and risk management.
6 ~~2~~	Evaluate and compare a horses training level at the beginning and end of the semester.

Content outline

#	Topic
1	Properly assess a horse to see what they know
2 ~~1~~	Halter and lead breaking
3 ~~2~~	Training to lunge and bit lunge
4 ~~3~~	Training a horse to accept a saddle and bit
5 ~~4~~	Training a horse to accept a rider
6 ~~5~~	Teaching a horse to steer
7	Working a horse at a walk, jog/trot, and lope/canter while teaching cadence and balance
8 ~~6~~	Teaching collection

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Stuart Burris (stuart.burris) (12/04/23 10:00 am): Rollback: This one cannot go via expedited. It has two other changes. Change of course type from Lecture to Lab (is that right? this has a lab, 334) and addition of a pre-req. We can combine one otherwise expedited change with LO/Outline additions, but not more.

Key: 540

Course Change Request

Date Submitted: 10/24/25 1:00 pm

Viewing: **ANSC 340 : ~~Meats and~~ Meat Evaluation and Merchandising ~~Products~~**

Last approved: 12/08/23 3:18 am

Last revision: 10/24/25 1:00 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

In Workflow

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

Approval Path

1. 10/24/25 1:01 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Luiz H. Pereira Silva	luiz.silva@wku.edu	2707455957

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): ANSC - Animal Science

Course number: 340

Department: Agriculture

College: Science and Engineering

Course title

~~Meats and~~ Meat Evaluation and Merchandising ~~Products~~

Abbreviated course title: MEAT EVALuation & Merchand. ~~MEATS/MEAT PRODUCTS~~

Course description

This is a hands-on course that focuses on carcass grading, fabrication, and retail cut identification from beef, pork, lamb, goat, and poultry. ~~A non-technical course designed for the averageconsumer.~~Students will also learn about ~~The role of meats and~~ meat packaging and merchandising practices for ~~products in human nutrition; meat substitutes; grading and inspection; identification and selection of wholesale and~~ retail and wholesale operations. ~~cuts of meat; care and storage of meat products are studied.~~

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: 120506 ~~010302~~ - Meat Cutting/Meat Cutter. ~~Animal/Livestock Husbandry and Production.~~

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 140	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Change the course title and content to complement the new courses in Meat Science. ~~Add course objectives and 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.

N/A

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~~	~~Explain the steps of animal slaughter~~
1 ~~5~~	Describe the importance of carcass grading and inspection.
2	Perform USDA grading on beef, pork, lamb, and poultry. ~~List the hazards that must be minimized while processing meat.~~
3	Fabricate carcasses of beef, pork, and lamb into primal, subprimal, and retail cuts.
4 ~~3~~	Identify the ~~main~~ retail cuts of beef, pork, lamb, and poultry.
~~4~~	~~Explain the main factors that affect meat quality.~~
5 ~~6~~	Name the most common butcher tools and equipment. ~~tolls.~~
6 ~~7~~	Calculate cut yields and profitability. ~~Measure carcass quality.~~

Content outline

#	Topic
1	Review of animal production and harvesting ~~History of the Meat Industry~~ ~~Meat Quality - Nutritional Value~~ ~~Meat Microbiology~~ ~~Meat Inspection and HACCP plan~~ ~~Meat Organoleptic Quality Traits~~ ~~Lab - Meat quality (Color and Tenderness)~~ ~~Animal Harvesting~~ ~~Transformation of Muscle into Meat~~ ~~Visiting a slaughterhouse (Beef/Pork)~~ ~~Safety Procedures / Butcher tools / Knife sharpening~~ ~~Beef Carcass Fabrication~~ ~~Lab - Beef carcass Fabrication (Loin)~~ ~~Lab - Beef carcass Fabrication (Round)~~ ~~Lab - Beef carcass Fabrication (Rib + Plate)~~ ~~Lab - Beef carcass Fabrication (Chuck)~~ ~~USDA Beef Grading~~ ~~Lab - Beef grading~~ ~~Beef Grading - Calculation class~~ ~~Pork Grading and fabrication~~ ~~Lab - Pork carcass Fabrication~~ ~~Processed Meats~~ ~~Lab - Meat griding - Hamburger and Sausage Making~~ ~~Visiting a slaughterhouse (Poultry)~~ ~~Poultry Grading and Fabrication / Poultry Fabrication~~
2	Principles of carcass evaluation

#	Topic
3	USDA classes and grades
4	Safety and Sanitation Procedures (GMPs, SSOPs, personal hygiene)
5	Safety and Knife Skills
6	Fabrication of carcasses, including beef, hog, lamb, goat, and chicken (basic cutting yield calculations)
7	Retail Cut Identification
8	Meat packaging and labeling
9	Meat merchandising (selection, pricing, packaging, and distribution)

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 545

Course Change Request

Date Submitted: 10/14/25 9:14 am

Viewing: ANSC 345 : Principles of Animal Nutrition

Last revision: 10/28/25 1:18 pm

Changes proposed by: phl16936

Catalog Pages referencing this course

Animal Science (ANSC)

Animal Science (ANSC)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Phillip Gunter	phillip.gunter@wku.edu	2707455958

Review Type Full Review

In Workflow

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

Approval Path

1. 12/04/23 8:10 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 12/04/23 10:02 am Stuart Burris (stuart.burris): Rollback to Initiator
3. 10/14/25 9:19 am Paul Woosley (paul.woosley): Approved for AGRI Approval
4. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): ANSC - Animal Science

Course number: 345

Department: Agriculture

College: Science and Engineering

Course title
Principles of Animal Nutrition

Abbreviated course title: PRINCIPLES OF NUTRITION

Course description
Principles of nutrition basic to animal feeding; chemistry and physiology of nutrition: nutrient requirements for normal body functions.

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: 010904 - Animal Nutrition.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 140	D	UG		

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
And		BIOL 120	D	UG		No
And	(	CHEM 107	D	UG		No
Or		CHEM 222	D	UG	)	No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updating course objectives and outline, and adding prerequisite CHEM 222.

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.

Chemistry, discussed with Dr. Matthew Nee on 10/8/25,

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 all the nutrient groups and distinguish between essential or nonessential constituents within classes, and outline their methods of analysis.
2	Evaluate the basic anatomy of the digestive tract of common ruminant and nonruminant species.
3	Compare the physical and chemical means of digestion and absoprtion for each of the nutrient groups including the origin, activation, and function for all digestive tract secretions.

Content outline

#	Topic
1	I) Introduction II) Bioenergetics III) Comparative GI Anatomy III) Water IV) Carbohydrates V) Lipids VI) Proteins VII) Vitamins VIII) Minerals IX) Nutrient Toxicities X) Feed Intake Regulation

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Stuart Burris (stuart.burris) (12/04/23 10:02 am): Rollback: This one cannot go via expedited. It has a non-expedited change, addition of pre-req outside the department. Please include date of contact with CHEM in the update. Thanks!!

Key: 548

Course Change Request

Date Submitted: 10/24/25 1:03 pm

Viewing: ANSC 352 : Applied Horsemanship

Last approved: 03/18/25 3:13 am

Last revision: 10/24/25 1:03 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Paige Smith	paige.smith@wku.edu	6159461576

Review Type: Full Review

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 1:04 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Mar 18, 2025 by Paige Smith (paige.smith)

Academic Level Undergraduate

Course prefix (subject area) ANSC - Animal Science

Course number 352

Department Agriculture

College Science and Engineering

Course title
Applied Horsemanship

Abbreviated course title APPLIED HORSEMANSHIP

Course description
Application of horsemanship skills within the equine industry. Field trips are required with this course on predetermined dates. Through theoretical knowledge and practical application, students will develop the riding skills, horsemanship, and competition strategies necessary to excel at the collegiate level.

Credit hours 3

Repeatable
Yes
Number of repeats 2
For maximum credits 6

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 010507 - Equestrian/Equine Studies.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		~~ANSC 333~~	~~C~~	~~UG~~		~~Yes~~

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Horse Training (ANSC 333) not needed for this course.

Is this related to other courses at WKU?

No

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

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 advanced riding skills in chosen equestrian discipline(s) following safe and effective riding practices.
2	Apply theoretical knowledge of equine science, training principles, and stable management to effectively care for horses.

#	Student Learning Outcomes
3	Develop and implement competition strategies based on judging criteria and showmanship techniques.

Content outline

#	Topic
1	Equine care, including horse health, nutrition, grooming, and safe handling practices.
2	Types of riding disciplines.
3	Appropriate showing apparel within the industry.
4	Understanding and reading patterns used in Horsemanship, Reining, Cow Horse, Trail and Ranch Riding classes.
5	Showmanship skills.
6	Understanding the scoring systems within the show industry.

Student expectations and requirements

Outside of regular class meeting times, there will be a minimum of two required weekends of field trips to horse shows.

Tentative texts and course materials

None

Special equipment, materials, or library resources needed

Jeans and riding boots

Additional information

Supporting documentation

Reviewer Comments

Key: 9796

Course Change Request

Date Submitted: 10/24/25 1:06 pm

Viewing: ANSC 360 : Equine Events and Facilities Management

Last approved: 05/21/22 3:13 am

Last revision: 10/24/25 1:06 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

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

Review Type: Full Review

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 1:13 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. May 21, 2022 by Paige Smith (paige.smith)

Academic Level: Undergraduate

Course prefix (subject area): ANSC - Animal Science

Course number: 360

Department: Agriculture

College: Science and Engineering

Course title
Equine Events and Facilities Management

Abbreviated course title: EQUINE EVENTS AND FACILITIES M ~~MANAGEMENT~~

Course description
Fundamentals of managing equine and other livestock events. Involves active participation in preparing for and conducting WKU equine events. Lecture/lab. Discussion of various types of equine facilities and their proper management. Hands-on activities associated with private, public, and event management will be incorporated into lecture material.

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: 01.0507 - 01.0507

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		~~ANSC 130~~	~~D~~	~~UG~~		
~~And~~		~~ANSC 131~~	~~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

Updates to course title better reflects content.

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 a timeline of the necessary steps in implementing a successful and smoothly run horse show.

#	Student Learning Outcomes
2	Describe the numerous roles involved and determine labor requirements needed to successfully manage a show.
3	Identify skills needed for each role to ensure that the most qualified personnel are responsible for certain tasks.
4	Recognize how the classes needed are dependent upon the area, time, breed association, etc.
5	Identify the similarities and differences in private, public, and event facilities.
6	Describe the day to day routine at each of the different types of facilities.
7	Evaluate the efficient allocation of resources at different types of equine facilites.
8	Recognize the individual needs of facilities.
9	Describe why different disciplines need different footing types and depths.
10	Analyze different types of budgets for farms and facilities.

Content outline

#	Topic
1	Picking dates for a horse show
2	Outline what will be needed to successfully implement a horse show
3	Understanding breed requirements for a horse show
4	Preparing a schedule
5	Applying rules to the show
6	Ordering needed supplies and equipment
7	Prepping the facilities for a show
8	Implementing the horse show and understanding all of the jobs/people needed for a successful event
9	Wrapping up after the show
10	Differences and similarities of private, public, and event facilities
11	Design of private, public, and event facilities
12	Management on a day to day basis
13	Management on a seasonal basis
14	Composition, cost and biological response of arena footings
15	Budget of equine boarding facilities
16	Equine event facility contracts and budgets

Student
expectations and

requirements

Implementing tasks learned in class to assist in maintenance of the WKU Horse barn facilities.

Create and host a horse show.

Tentative texts and course materials

None

Special equipment, materials, or library resources needed

None

Additional information

Supporting documentation

Reviewer Comments

Key: 9507

Course Change Request

Date Submitted: 10/16/25 10:46 am

Viewing: ANSC 431 : Dairy Production

Last approved: 12/08/23 3:18 am

Last revision: 10/16/25 10:46 am

Changes proposed by: phl16936

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

In Workflow

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

Approval Path

1. 10/24/25 11:17 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Active

Contact(s)

Name	E-mail	Phone
Phillip Gunter ~~Luiz H.Pereira Silva~~	phillip.gunter@wku.edu ~~luiz.silva@wku.edu~~	2707455958 ~~2707455957~~

Review Type	Full Review ~~Expedited~~
Term for implementation	Fall 2026

Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	431
Department	Agriculture		
College	Science and Engineering		

Course title
Dairy Production

Abbreviated course title: DAIRY PRODUCTION

Course description
Principles of nutrition and management and their practical application to commercial dairy herds are emphasized.

Credit hours: 2

Repeatable
Yes
Number of repeats: 2
For maximum credits: 2

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: 010302 ~~020201~~ - Animal/Livestock Husbandry and Production. ~~020201~~

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 345	D	UG		No
And		ANSC 140	D	UG		

Corequisites

ANSC 432 - Dairy Production Laboratory

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updated CIP code and SLOs. ~~Add course objectives and 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.

N/A

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	Evaluate the status of the state and national dairy industry. ~~Demonstrate a comprehensive understanding of dairy production systems.~~

#	Student Learning Outcomes
2	Develop skills in applying concepts of breeding, physiology, nutrition, herd health, economics and management into practical and profitable dairy cattle programs. ~~Apply principles of animal nutrition to dairy herd management.~~
3	Identify the many facets of dairy cattle production, including the importance of fitting specific dairy cattle programs to given land and feed resources. ~~Assess nutritional requirements for optimal milk production and herd health.~~
~~4~~	~~Design feeding programs that consider economic and environmental sustainability.~~
~~5~~	~~Explain the principles of dairy cattle genetics and inheritance.~~
~~6~~	~~Interpret and use genetic information to make informed breeding decisions.~~
~~7~~	~~Implement effective reproductive management strategies.~~
~~8~~	~~Analyze financial and production records to make informed management decisions.~~

Content outline

#	Topic
1	Introduction to Dairy Production Dairy Cattle Breeds and Selection Nutrition and Feeding Management Reproduction and Breeding Management Dairy Herd Health Management Facilities and Equipment Record-Keeping and Farm Management Technology in Dairy Production Sustainable and Organic Dairy Farming Current issues and trends in the dairy industry. Practical Application and Field Experience

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 550

Course Change Request

Date Submitted: 10/16/25 10:48 am

Viewing: ANSC 432 : Dairy Production Laboratory

Last approved: 12/08/23 3:18 am

Last revision: 10/16/25 10:48 am

Changes proposed by: phl16936

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Phillip Gunter ~~Luiz H.Pereira Silva~~	phillip.gunter@wku.edu ~~luiz.silva@wku.edu~~	2707455958 ~~2707455957~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 11:17 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	432
Department	Agriculture		
College	Science and Engineering		

Course title
Dairy Production Laboratory

Abbreviated course title: DAIRY PRODUCTION LAB

Course description
A laboratory course correlated with ANSC 431.

Credit hours: 1

Repeatable
Yes
Number of repeats: 2
For maximum credits: 1

Default grade type: Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type
Lab

CIP Code: 010302 ~~020201~~ - Animal/Livestock Husbandry and Production. ~~020201~~

Does this course have prerequisites

No

Corequisites
ANSC 431 - Dairy Production

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major?	No
Classification restriction?	No
Departmental Restrictions	

Reason for changing the course

Update CIP code and SLOs. ~~Add course objectives and 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.

N/A

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 hands on application of herd health, nutrition, reproduction, and cattle handling techniques covered in class. ~~Describe the WKU dairy production system.~~
2	Employ safe work practices when handling cattle in both a pen and working facilities environment. ~~Apply Knowledge of feed identification and diet mixing and delivery~~
~~3~~	~~Assess dairy production efficiency~~
~~4~~	~~Assess nutritional requirements for optimal milk production and herd health.~~
~~5~~	~~Interpret and use genetic information to make informed breeding decisions.~~

Content outline

#	Topic
1	Dairy Cattle Breeds and Selection Nutrition and Feeding Management Reproduction and Breeding Management Dairy Herd Health Management Facilities and Equipment Record-Keeping and Farm Management Technology in Dairy Production Practice operating a milking machine. Analyze case-studied problems and propose solutions

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 551

Course Change Request

Date Submitted: 10/24/25 11:19 am

Viewing: ANSC 437 : Reproductive Physiology ~~Physiology of Reproduction in Domestic Animals~~

Last approved: 12/08/23 3:18 am

Last revision: 10/24/25 11:19 am

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

In Workflow

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

Approval Path

1. 10/24/25 11:18 am Paul Woosley (paul.woosley): Rollback to Initiator
2. 10/24/25 11:20 am Paul Woosley (paul.woosley): Approved for AGRI Approval
3. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Active

Contact(s)

Name	E-mail	Phone
Debra Shoulders ~~Phillip Gunter~~	debra.shoulders@wku.edu ~~phillip.gunter@wku.edu~~	2707924299 ~~2707455958~~

Review Type	Full Review ~~Expedited~~		
Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	437
Department	Agriculture		
College	Science and Engineering		

Course title

Reproductive Physiology ~~Physiology of Reproduction in Domestic Animals~~

Abbreviated course title	REPRODUCTIVE PHYSIOLOGY ~~PHYSIOLOGY/REPRODUCTION~~

Course description

Endocrinology and physiology of reproductive systems; anatomical, physiological and biochemical bases of reproduction; factors affecting means of improving efficiency of reproduction, artificial insemination, synchronized estrus and related topics are presented.

Credit hours 2

Repeatable

Yes

Number of repeats 2

For maximum credits 2

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 010302 - Animal/Livestock Husbandry and Production.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 140	D	UG		Yes
And		BIOL 120	D	UG		Yes

Corequisites

ANSC 438 - Reproductive Physiology Laboratory

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

More concise explanation of course ~~Update course objectives and 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.

NA

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	Define the principles of reproduction.
2	Identify the the reproductive anatomy of livestock.
3	Develop a deep understanding of a specific area of reproduction.

Content outline

#	Topic
1	I. Introduction/terminology II. History of reproduction III. Female anatomy IV. Male anatomy V. Embryology VI. Hormonal control VII. Puberty VIII. Estrous cycle IX. Follicular phase X. Luteal phase XI. Spermatogenesis XII. Fertilization XIII. Reproductive behavior XIV. Pregnancy XV. Parturition XVI. Dystocia XVII. Reproductive pathology

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting
documentation

Reviewer Comments

Paul Woosley (paul.woosley) (10/24/25 11:18 am): Rollback: needs full review

Key: 553

Course Change Request

Date Submitted: 10/24/25 11:20 am

Viewing: ANSC 438 : Reproductive Physiology ~~of Reproduction in Domestic Animal~~ Laboratory

Last approved: 12/08/23 3:18 am

Last revision: 10/28/25 12:11 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Debra Shoulders ~~Phillip Gunter~~	debra.shoulders@wku.edu ~~phillip.gunter@wku.edu~~	2707924299 ~~2707455958~~

In Workflow

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

Approval Path

1. 10/24/25 11:18 am Paul Woosley (paul.woosley): Rollback to Initiator
2. 10/24/25 11:21 am Paul Woosley (paul.woosley): Approved for AGRI Approval
3. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Review Type	Full Review ~~Expedited~~		
Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	ANSC - Animal Science	Course number	438
Department	Agriculture		
College	Science and Engineering		

Course title

Reproductive Physiology ~~of Reproduction in Domestic Animal~~ Laboratory

Abbreviated course title	REPRODUCTIVE PHYSIOLOGY ~~PHYSIOLOGY/REPRO~~ LAB

Course description

A laboratory course correlated with ANSC 437.

Credit hours 1

Repeatable

Yes

Number of repeats 2

For maximum credits 1

Default grade type	Standard Letter	Alternate grade type(s)	

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code	010302 - Animal/Livestock Husbandry and Production.

Does this course have prerequisites

No

Corequisites

ANSC 437 - Reproductive Physiology

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

A more concise description of course ~~Update course objectives and 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.

NA

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	Identify reproductive anatomy of livestock.
2	Explain livestock reproductive principles.

Content outline

#	Topic
1	I. Introduction/terminology II. History of reproduction III. Female anatomy

#	Topic
	IV. Male anatomy V. Embryology VI. Hormonal control VII. Puberty VIII. Estrous cycle IX. Follicular phase X. Luteal phase XI. Spermatogenesis XII. Fertilization XIII. Reproductive behavior XIV. Pregnancy XV. Parturition XVI. Dystocia XVII. Reproductive pathology

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Paul Woosley (paul.woosley) (10/24/25 11:18 am): Rollback: add laboratory to title

Key: 555

Course Change Request

Date Submitted: 10/24/25 1:13 pm

Viewing: ANSC 458 : Animal Growth and Development ~~Meat Quality~~

Last approved: 02/26/22 3:13 am

Last revision: 10/24/25 1:13 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

Proposed Action

In Workflow

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

Approval Path

1. 10/24/25 1:13 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:32 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Feb 26, 2022 by Luiz Pereira Silva (luiz.silva)

Active

Contact(s)

Name	E-mail	Phone
Luiz H. Pereira Silva	luiz.silva@wku.edu	2707455957

Review Type: Full Review

Term for implementation: Fall 2026

Academic Level Undergraduate

Course prefix (subject area) ANSC - Animal Science

Course number 458

Department Agriculture

College Science and Engineering

Course title

Animal Growth and Development ~~Meat Quality~~

Abbreviated course title ANIMAL GROWTH AND DEVELOPMENT ~~MEAT QUALITY~~

Course description

This course examines the biological mechanisms governing growth and development in livestock species from conception to maturity. Topics include cellular and tissue development, skeletal and muscle ~~Comprehensive overview of factors affecting animal~~ growth, endocrine regulation, body ~~carcass~~ composition, and the genetic, nutritional, and environmental factors influencing growth. ~~and meat quality.~~

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 010906 - Livestock Management.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		ANSC 140	D	UG		No
And		BIOL 120	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? Yes

Select:
Include

Classification:

Classification restriction
Junior
Senior

Departmental Restrictions

Reason for changing the course
Remove the "Meat Quality" portion of this course. These topics are going to be covered in the new meat 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

Student Learning Outcomes

#	Student Learning Outcomes
1	Describe the origin and developmental order ~~formation~~ of the economically important ~~main~~ body tissues in farm animals. ~~tissues.~~
2	Integrate prenatal and postnatal development, explaining how early developmental events influence later growth performance and production efficiency. ~~Explain how growth rate and carcass traits can be affected by common practices such as castration, dietary manipulation, and utilizing growth promoters.~~
3	Explain how growth rate and carcass traits can be affected by common practices such as castration, dietary manipulation, and utilizing growth promoters. ~~Discuss the effect of carcass composition on feed efficiency and meat quality.~~
4	Discuss the effect of carcass composition on feed efficiency and product quality. ~~Recognize the differences in meat quality from distinct production systems, species, and breeds.~~

Content outline

#	Topic
1	General aspects of growth
2	Prenatal growth and development
3	Postnatal growth and development
4	Growth of body parts - Allometric growth
5	Growth of carcass tissues
6	Hormonal control of animal growth
7	Compensatory growth
8	Paper presentations on relevant topics in animal growth. ~~Animal Slaughter~~
~~9~~	~~Carcass evaluation~~
~~10~~	~~Conversion of muscle to meat~~
~~11~~	~~Muscle structure and fresh meat quality~~

Student expectations and requirements

Tentative texts and course materials

1- The Science of Animal Growth and Meat Technology. By Steven M. Lonergan, David G. Topel, Dennis N. Marple, 2nd edition, 2019. ISBN: 978-0-12-815277-5

2- Growth of Farm Animals. By T.L.J. Lawrence and V.R. Fowler. 2nd edition, 2002. ISBN: 0–85199–484–9

Special equipment, materials, or library resources needed

There is no special equipment, materials, or library resources needed.

Additional information

Supporting documentation

Reviewer Comments

Key: 9475

Course Change Request

Date Submitted: 10/24/25 1:14 pm

Viewing: **ANSC 475 : Selected Topics in Animal Science ~~Agriculture~~**

Last approved: 12/08/23 3:18 am

Last revision: 10/24/25 1:14 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

Animal Science (ANSC)

Department of Agriculture and Food Science

In Workflow

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

Approval Path

1. 10/24/25 1:14 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 8, 2023 by William Willian (todd.willian)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Luiz H. Pereira Silva	Luiz.silva@wku.edu	2707455957

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): ANSC - Animal Science

Course number: 475

Department: Agriculture

College: Science and Engineering

Course title

Selected Topics in Animal Science ~~Agriculture~~

Abbreviated course title: SELECT TOPICS IN ANIMAL SCI ~~SELECTED TOPICS~~

Course description

Special topics acquaint advanced undergraduate students with scientific developments of current interest in agriculture. Appropriate topic titles are assigned. Lecture and assignments vary with credit. May be repeated with change in content. Note: Consent of instructor required.

Credit hours: 1-3

Repeatable

Yes

Number of repeats: 2

For maximum credits: 6

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: 010901 - Animal Sciences, General.

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

Title change better reflects course content. ~~Add course objectives and 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.

N/A

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	Identify, discuss, and interpret topical areas within the field of Animal Science. Topics of study vary within the broad range of disciplines in the Animal Science field.

Content outline

#	Topic
1	Introduction of the topical area Discussion of topical area and its respective sub-categories or sub-disciplines Evaluation of student learning

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 572

Course Change Request

Date Submitted: 09/30/25 4:29 pm

Viewing: PLSS ~~HORT~~ 209 : Floral Design I: Elements and Principles of Floral Design

Also listed as: ~~HORT 209~~

Formerly known as: HORT 209

Last approved: 12/12/23 10:10 am

Last revision: 09/30/25 4:29 pm

Changes proposed by: rgr79842

418: Meeting and Convention Planning, Minor
369: Floristry, Minor
558: Interdisciplinary Studies, Bachelor of Interdisciplinary Studies
5016: Interior Design and Fashion Studies
508: Agriculture, Bachelor of Science
246: Interdisciplinary Studies, Associate of Interdisciplinary Studies
1769: Floristry

In Workflow

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

Approval Path

1. 10/01/25 8:03 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	2707453151

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

Academic Level Undergraduate

Course prefix (subject area) PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~ Course number 209

Department Agriculture

College Science and Engineering

Course title
Floral Design I: Elements and Principles of Floral Design

Abbreviated course title ~~INTRODUCTION TO~~ FLORAL DESIGN I: ELEMENTS AND

Course description
Principles and elements of floral design; the use of floral materials, design techniques, and elements including line, form, texture, and color; emphasis on the history and use of floral art in business and society.

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
Applied Learning
Lecture/Lab

CIP Code 010603 - Ornamental Horticulture.

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

Updating course title to better reflect course content.
Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Define and identify the principles and elements of design used in floral composition and use appropriate terminology in describing and interpreting a floral composition.
2	Create floral designs by implementing the design process with the use of floral materials.
3	Examine the history of floral arts particularly as it relates to current floral practices.
4	Illustrate the steps required to properly care for and handle floral materials.
5	Apply floral mechanics required for producing a floral composition.

Content outline

#	Topic
1	1.The Design Process. Careers, Training, and employment and the history of floral design. 2. Tour Floral Design Training Center & Lab Rules Designing a Bud Vase 3. Containers, tools, and mechanics 4. Designing a vase arrangement. 5. Principles and Elements of Floral Design 6. Designing a round centerpiece. 7. Principles and Elements of Floral Design and Design Styles 8. Designing a Symmetrical Design 9. Designing an Asymmetrical Design 10. Care of foliage plants. 11. Designing with plants. 12. Designing a Horizontal Design 13. Designing a Linear Floral Arrangement 14. Designing a Bouquet 15. Designing Flowers to Wear 16. Designing an Armature Floral Design 17. Designing a Holiday Centerpiece

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5201

Course Change Request

Date Submitted: 10/24/25 12:23 pm

Viewing: PLSS ~~HORT~~ 301 : Sustainable ~~Introduction to~~ Landscape Plants

Also listed as: ~~HORT 301~~

Formerly known as: HORT 301

Last approved: 12/12/23 10:10 am

Last revision: 10/24/25 12:23 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

HORT 301:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
martin stone	martin.stone@wku.edu	270-438-6923

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:24 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~

Course number: 301

Department: Agriculture

College: Science and Engineering

Course title: Sustainable ~~Introduction to~~ Landscape Plants

Abbreviated course title: SUSTAINABLE ~~INTRO~~ LANDSCAPE PLANTS

Course description

Identification, recognition and use of deciduous trees, shrubs and herbaceous plants in the landscape. Introduction to evergreen shrubs and trees as well as fall flowering bulbs and perennials are included.

Credit hours: 2

Repeatable

Yes

Number of repeats: 2

For maximum credits: 2

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: 010605 - Landscaping and Groundskeeping.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRO 110	D	UG		Yes

Corequisites

HORT 302 - Sustainable Landscape Plants Laboratory

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Change the name of the course to reflect the emphasis in the course of sustainability in the landscape and the techniques and plants that are useful and appropriate.

The prefix is being changed to reflect the new prefixes in the Department of Agriculture and Food Science. ~~add course objectives and 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.

n/a

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	Analyze the relationships between plant form, function, and adaptation to different environmental conditions.
2	Evaluate the suitability of different landscape plants for specific landscape designs based on their aesthetic, ecological, and functional characteristics.
3	Create a landscape design that incorporates a diverse selection of landscape plants that are aesthetically pleasing, ecologically sustainable, and functionally appropriate for the site and intended use.

Content outline

#	Topic
1	Introduction to Landscape Plants Overview of landscape plants Classification of landscape plants Plant form and function Landscape Plant Adaptations Adaptations to light Adaptations to water Adaptations to soil Adaptations to temperature Landscape Plant Aesthetics Principles of landscape design Use of color in landscape design Texture and form in landscape design Landscape Plant Selection Evaluating site conditions Selecting plants for specific purposes Considering aesthetics, function, and maintenance Landscape Plant Installation Proper planting techniques Care of newly planted trees and shrubs Establishment of groundcovers Landscape Plant Care Pruning and shaping trees and shrubs Fertilization and watering Pest and disease management Landscape Plant Maintenance Weed control Mulching

#	Topic
	Winter protection Sustainable Landscape Design Principles of sustainable landscape design Use of native plants Water conservation strategies Landscape Plants and the Environment Role of landscape plants in creating healthy ecosystems Benefits of landscape plants for wildlife Environmental impacts of landscape plants

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5202

Course Change Request

Date Submitted: 10/24/25 12:24 pm

Viewing: PLSS ~~HORT~~ 302 : Sustainable ~~Introduction to~~ Landscape Plants Laboratory

Also listed as: ~~HORT 302~~

Formerly known as: HORT 302

Last approved: 12/12/23 10:11 am

Last revision: 10/24/25 12:24 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

HORT 302:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
martin stone	martin.stone@wku.edu	270-438-6923

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 12:24 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~	Course number	302
Department	Agriculture		
College	Science and Engineering		

Course title

Sustainable ~~Introduction to~~ Landscape Plants Laboratory

Abbreviated course title: SUSTain ~~INTRO~~ LANDSCAPE PLANTS ~~PLTS~~ LAB

Course description

A laboratory course correlated with PLSS ~~HORT~~ 301.

Credit hours: 1

Repeatable

Yes

Number of repeats: 2

For maximum credits: 1

Default grade type: Standard Letter

Alternate grade type(s):

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code: 010605 - Landscaping and Groundskeeping.

Does this course have prerequisites

No

Corequisites

HORT 301 - Sustainable Landscape Plants

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

The change reflects that we teach sustainable landscape plants and learn about their role in our landscapes.

The prefix change reflects the new prefix for the Department of Agriculture and Plant Science. ~~add course objectives and 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.

n/a

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	Identify and name common landscape plants.
2	Evaluate the merits of different landscape plant choices.
3	Explain the role of landscape plants in human well-being.

Content outline

#	Topic
1	Introduction and characterization of basic botany and plant identification in the field. Students will go into landscapes weekly to name and classify landscape plants

#	Topic
	Students will be assessed weekly on their field knowledge of landscape plant identification learned to date in the course Students will analyze the specific site factors in which landscape plants are growing and assess their suitability

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5203

Course Change Request

Date Submitted: 09/30/25 4:30 pm

Viewing: **PLSS ~~HORT~~ 309 : ~~Advanced~~ Floral Design II: Advanced Techniques in Floral Design**

Also listed as: ~~**HORT 309**~~

Formerly known as: **HORT 309**

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:30 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 309:
Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	2707453151

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~ Course number 309

Department Agriculture

College Science and Engineering

Course title
~~Advanced~~ Floral Design II: Advanced Techniques in Floral Design

Abbreviated course title ~~ADVANCED~~ FLORAL DESIGN II: ADVANCED TEC

Course description
Advanced principles of floral design as applied to a commercial floral shop enterprise. Production cost and profit analysis, selling techniques, and customer relations are considered concurrently with design.

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
Applied Learning
Lecture/Lab

CIP Code 010603 - Ornamental Horticulture.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		HORT 209	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

Updating course title to better reflect course content.
Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Apply the advanced elements of floral design in relation to the basic elements and principles of design by applying them to modern design styles.

#	Student Learning Outcomes
2	Design using aspects of commercial floral designs in vase arrangements, sympathy designs and flowers for special occasions.
3	Identify the production cost and profit analysis, selling techniques, and customer relations that are considered concurrently with design.
4	Use color and principles of design in advanced floral design in relation to design elements and techniques.
5	Identify the use of terminology, techniques, purchasing procedures, and handling of specialty flowers and foliage for weddings and sympathy design.

Content outline

#	Topic
1	1. Careers in Floral Design. 2. Design a glass cube arrangement. 3. Maintaining and Decorating Potted Arrangements 4. History of Floral Design 5. Care and Handling of Fresh Cut Flowers 6. Foliage plants and their care 7. Designing with plants. 8. Principles of Design and Floral Design Style 9. Landscape Design 10. Elements of Design and Floral Design Style 11. Line-Mass Design 12. Floral Design Styles & Techniques 13. Parallel Systems Design 14. Sympathy Floral Design 15. Sympathy Design (Traditional Funeral Basket) 16. Sympathy Design (Casket Spray) 17. Designing with permanent botanicals 18. Site Assessment and Theme Development 19. Event Planning & Floral Design 20. Designing flowers to carry (bouquet) 21. Flowers for wear (corsages and boutonnières) 22. Designing Floral Arrangements for Events Presentations

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5206

Course Change Request

Date Submitted: 09/29/25 2:03 pm

Viewing: PLSS ~~HORT~~ 313 : Turfgrass Use and Ecology ~~Turfgrass Management~~

Also listed as: ~~HORT 313~~

Formerly known as: HORT 313

Last revision: 09/29/25 2:03 pm

Changes proposed by: wll42497

Catalog Pages referencing this course

HORT 313:

Department of Agriculture and Food Science

In Workflow

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

Approval Path

1. 09/30/25 1:06 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
William Strunk	william.strunk@wku.edu	(270) 745-3151

Review Type	Full Review		
Term for implementation	Spring 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~	Course number	313
Department	Agriculture		
College	Science and Engineering		

Course title

Turfgrass Use and Ecology ~~Turfgrass Management~~

Abbreviated course title: TURFGRASS USE AND ECOLOGY ~~TURFGRASS MANAGEMENT~~

Course description

A study of turfgrass, including adaption, identification, uses and fundamental principles essential for establishing and maintaining quality turf in lawns and recreation areas. 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: 010607 - Turf and Turfgrass Management.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		~~AGRO 110~~	~~D~~	~~UG~~		
		AGRO 110	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major?	No
Classification restriction?	No
Departmental Restrictions	

Reason for changing the course

Combining HORT and AGRO prefixes into PLSS simplifies course selection for students. The Title change aligns with course content and purpose. Content outline edited to better reflect course content. The prerequisite for AGRO 110 was added after accidentally deleting.

Is this related to other courses at WKU?

No

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

N/A

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	Evaluate the characteristics of turfgrass species, including growth habits, environmental requirements, and disease susceptibility, to select appropriate species for specific applications
2	Develop and implement management plans for turfgrass, including practices such as irrigation, fertilization, and pest control, to maintain healthy and aesthetically pleasing turf
3	Identify and diagnose common turfgrass diseases, pests, and other problems, and apply appropriate integrated pest management strategies to control them

#	Student Learning Outcomes
4	Interpret soil test results to determine the nutrient and pH status of turfgrass soils and develop fertilization programs to correct deficiencies.
5	Analyze the physical and chemical properties of turfgrass soils, including texture, structure, and organic matter content, and make recommendations for soil amendment and management
6	Conduct case studies to investigate specific issues related to turfgrass management, such as water use, nutrient management, or pest control, and present findings through written reports, oral presentations, and visual media

Content outline

#	Topic
1	Introduction to turfgrass management, technical jargon and definitions, and historical and evolutionary developments of turf
2	Turfgrass species, identification, and uses
3	Selection, establishment, and propagation
4	Turfgrass fertility, soils, and nutrition
5	Primary and secondary cultivation practices
6	Mowing and plant growth regulators
7	Irrigation, water use, and localized dry spot
8	Ecological and environmental considerations of turfgrass use
9	Introduction to pests in turfgrass systems including diseases, insects, and weeds

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5208

Course Change Request

Date Submitted: 09/30/25 4:30 pm

Viewing: **PLSS ~~HORT~~ 316 : Greenhouse Systems: Function and Care ~~Greenhouse Maintenance and Operation~~**

Also listed as: ~~**HORT 316**~~

Formerly known as: **HORT 316**

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:30 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 316:
Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	2704015032

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~	Course number	316
Department	Agriculture		
College	Science and Engineering		
Course title	Greenhouse Systems: Function and Care ~~Greenhouse Maintenance and Operation~~		
Abbreviated course title	GREENHOUSE SYSTEMS: FUNCTION A ~~GREENHOUSE MAINT & OPERATION~~		

Course description

Structures, equipment, and maintenance of greenhouse facilities and an introduction to basic techniques for growing floriculture crops.

Credit hours 2

Repeatable

Yes

Number of repeats 2

For maximum credits 2

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 010604 - Greenhouse Operations and Management.

Does this course have prerequisites

No

Corequisites

HORT 317 - Greenhouse Systems: Function and Care Lab

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major?	No
Classification restriction?	No
Departmental Restrictions	

Reason for changing the course

Updating course title to better reflect course content.
Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Analyze various greenhouse designs, structures, operation, and management.
2	Differentiate between production, research, teaching, display, public, and hobby greenhouses.
3	Identify the criteria used for commercial greenhouse site selection, orientation, layout, structures, coverings, ventilation, shading, and equipment.

#	Student Learning Outcomes
4	Evaluate routine greenhouse operations and general environmental and cultural procedures including light, temperature, humidity, water, media, nutrient, and pest management.
5	Calculate heating and cooling requirements, fertilizer, acidity, and plant growth regulator rates and preparations and knowledge and limitations of online grower calculators.

Content outline

#	Topic
1	LECTURE TOPICS ➢ The Greenhouse Industry (local to global) ➢ Greenhouse Structure (putting it all together and things to consider before you build) ➢ Greenhouse Glazing (covers---IT IS WHAT MAKES A GREENHOUSE) ➢ Curtain Systems (shade or no shade) ➢ Benches, Floors, and Overhead ➢ Irrigation Systems (the science and art of irrigation) ➢ The Greenhouse Environment (ventilation, cooling, and heating) ➢ Mechanization (soilless media, mixers, pot filling, seeders) ➢ Pest Management ➢ Managing and Marketing of a Greenhouse Business ➢ Retail Greenhouse Design ➢ Growing foliage plants, Poinsettias, Cyclamen, Hydrangea, and Chrysanthemum

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5209

Course Change Request

Date Submitted: 09/30/25 4:31 pm

Viewing: **PLSS ~~HORT~~ 317 : Greenhouse Systems: Function and Care Lab ~~Greenhouse Maintenance and Operation Laboratory~~**

Also listed as: ~~**HORT 317**~~

Formerly known as: **HORT 317**

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:31 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 317:
Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	270-745-3151

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~	Course number	317
Department	Agriculture		
College	Science and Engineering		

Course title

Greenhouse Systems: Function and Care Lab ~~Greenhouse Maintenance and Operation Laboratory~~

Abbreviated course title: GREENHOUSE SYSTEMS: FUNCTION A ~~GREENHOUSE MAINT & OPER LAB~~

Course description

A laboratory course correlated with HORT 316.

Credit hours: 1

Repeatable

Yes

Number of repeats: 2

For maximum credits: 1

Default grade type: Standard Letter

Alternate grade type(s):

Is this course intended to span more than one term?

No

Schedule type

Lab

CIP Code: 010604 - Greenhouse Operations and Management.

Does this course have prerequisites

No

Corequisites

HORT 316 - Greenhouse Systems: Function and Care

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major?	No
Classification restriction?	No
Departmental Restrictions	

Reason for changing the course

Updating course title to better reflect course content.
Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Analyze various greenhouse designs, structures, operation, and management.
2	Differentiate between production, research, teaching, display, public, and hobby greenhouses.
3	Identify the criteria used for commercial greenhouse site selection, orientation, layout, structures, coverings, ventilation, shading, and equipment.

#	Student Learning Outcomes
4	Evaluate routine greenhouse operations and general environmental and cultural procedures including light, temperature, humidity, water, media, nutrient, and pest management.
5	Calculate heating and cooling requirements, fertilizer, acid, and plant growth regulator rates and preparations and knowledge and limitations of online grower calculators.
6	Schedule and produce greenhouse crops such as annuals, foliage plants, Poinsettias, Cyclamen, Hydrangea, and Chrysanthemum

Content outline

#	Topic
1	LAB TOPICS ➢ Greenhouse Structure (putting it all together and things to consider before you build) ➢ Greenhouse Glazing (covers---IT IS WHAT MAKES A GREENHOUSE) ➢ Curtain Systems (shade or no shade) ➢ Benches, Floors, and Overhead ➢ Irrigation Systems (the science and art of irrigation) ➢ The Greenhouse Environment (ventilation, cooling, and heating) ➢ Mechanization (soilless media, mixers, pot filling, seeders) ➢ Pest Management ➢ Managing a Greenhouse Operation ➢ Retail Greenhouse Design ➢ Growing annuals, foliage plants, Poinsettias, Cyclamen, Hydrangea, and Chrysanthemum

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Course Change Request

Date Submitted: 09/30/25 4:31 pm

Viewing: PLSS ~~HORT~~ 330 : Wedding Floral Artistry and Design

Also listed as: ~~HORT 330~~

Formerly known as: HORT 330

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:31 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 330:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	2707453151

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~

Course number 330

Department Agriculture

College Science and Engineering

Course title
Wedding Floral Artistry and Design

Abbreviated course title WEDDING FLORAL ARTISTRY AND DE ~~DESIGN~~

Course description
Principles and elements of floral design as applied to wedding planning and design. Includes production cost and profit analysis and marketing techniques.

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
Applied Learning
Lecture/Lab

CIP Code 010603 - Ornamental Horticulture.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		HORT 209	D	UG		

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

N/A

Reason for changing the course

Updating course title to better reflect course content.

Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Define and identify the principles and elements of design used in floral composition and use appropriate terminology in describing and interpreting a floral composition as it applies to Wedding Design.

#	Student Learning Outcomes
2	Demonstrate design process and implement the design process with the use of floral materials in Wedding Design.
3	Identify the history of Wedding Floral Design particularly as it relates to current religious and cultural practices.
4	Prepare and plan a full scale wedding (venues, flowers, reception).

Content outline

#	Topic
1	LABS: HAND-TIED BOUQUET WIRE AND TAPING FLOWERS HAND-TIED BOUQUETS USING AN ARMATURE WEDDING BOUQUETS AND FOLIAGE GLUING FLOWERS (BODY FLOWERS AND FLORAL JEWELRY) RECEPTION FLOWERS WEDDING FLOWERS WEDDING BOUQUET CASCADE LECTURE TOPICS: WEDDING TRADITIONS WEDDING CEREMONIES (TYPES) WEDDING PLANNING (CONSULTATIONS) TAKING WEDDING ORDERS AND FORM (CONTRACTS) PRICING WEDDINGS DELIVERY, SET-UP RENTALS

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5212

Course Change Request

Date Submitted: 09/30/25 4:31 pm

Viewing: **PLSS ~~HORT~~ 340 : Greenhouse Cultivation and Crop Management ~~Production~~**

Also listed as: ~~**HORT 340**~~

Formerly known as: **HORT 340**

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:31 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 340:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	270-745-3251

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~	Course number	340
Department	Agriculture		
College	Science and Engineering		

Course title

Greenhouse Cultivation and Crop Management ~~Production~~

Abbreviated course title	GREENHOUSE CULTIVATION AND CRO ~~GREENHOUSE CROP PRODUCTION~~

Course description

Commercial greenhouse production of floriculture crops, focusing on the production of bedding plants, potted flowering plants, foliage plants and other non-floriculture crops including but not limited to hemp and tobacco transplants.

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 010608 - Floriculture/Floristry Operations and Management.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		HORT 316	D	UG		
And		HORT 317	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

Updating course title to better reflect course content.

Combining AGRO and HORT prefixes to simplify course selections for the students. ~~Add course objectives.~~

Is this related to other courses at WKU?

No

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

N/A

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	Construct a production schedule and cultural practices of various greenhouse grown crops.

#	Student Learning Outcomes
2	Illustrate the proper techniques of producing numerous greenhouse crops.
3	Identify and recognize the common and scientific names and uses of various greenhouse grown plants.
4	Explore the basic business requirement of a commercial floriculture business.
5	Use proper practices in the production of bulb plants, bedding plants, foliage plants, potted flowering plants, perennial plants, and vegetable plants.

Content outline

#	Topic
1	1. How to develop a production schedule and cultural practices of various greenhouse grown crops. 2. Cultural requirements and techniques of producing numerous greenhouse crops. 3. Identifying the common and scientific names and uses of various greenhouse grown plants. 4. Use of proper business requirements for a commercial floriculture operation. 5. Developing a growing schedule for the production for bulb plants, bedding plants, foliage plants, potted flowering plants, perennial plants, and vegetable plants. 6. Identifying the proper uses of greenhouse grown crops.

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5213

Course Change Request

Date Submitted: 09/30/25 4:46 pm

Viewing: **PLSS ~~AGMC~~ 392 : Irrigation strategies for green spaces ~~Turf Irrigation~~**

Also listed as: ~~**AGMC 392**~~

Formerly known as: **AGMC 392**

Last approved: 10/29/23 3:18 am

Last revision: 09/30/25 4:46 pm

Changes proposed by: wll42497

Catalog Pages referencing this course

AGMC 392:

Agricultural Mechanics (AGMC)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Dan Strunk	william.strunk@wku.edu	(270) 745-3151

Review Type Full Review ~~Expedited~~

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Jan 23, 2023 by Jessica Dorris (jessica.dorris)
2. Oct 29, 2023 by William Willian (todd.willian)

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~AGMC - Agricultural Mechanics~~	Course number	392
Department	Agriculture		
College	Science and Engineering		

Course title

Irrigation strategies for green spaces ~~Turf Irrigation~~

Abbreviated course title

~~TURF~~ IRRIGATION STRATEGIES

Course description

Instruction in the design, selection, care, operation, ~~operation~~ and management of irrigation systems ~~specifically designed~~ for commercial, industrial, ~~industrial~~ and residential turfgrass and landscape ~~turf~~ settings. Discussion will include signs and symptoms of plant water deficit stress, soil characteristics and moisture, environmental monitoring, and ~~Special emphasis given to the unique circumstance of golf courses.Field trips required.~~

Credit hours

3 ~~2~~

Repeatable

Yes

Number of repeats 2

For maximum credits 3 ~~2~~

Default grade type	Standard Letter	Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

~~Lecture~~

Lecture/Lab

CIP Code 010201 - Agricultural Mechanization, General.

Does this course have prerequisites

No ~~Yes~~

Corequisites

~~AGMC 393 - Turf Irrigation Laboratory~~

Equivalent Courses

Restrictions:

College restriction?	No
Field of study restriction/major?	No
Classification restriction?	No
Departmental Restrictions	

Reason for changing the course

The course prefix was changed to match the direction of the department to shifting all plant related courses to PLSS. The name of the course was changed to reflect current terminology in the industry and expansion of topics within the course to cover landscape irrigation. The prerequisites of MATH 116 was removed because hydraulic calculations for irrigation systems only require a four function calculator and the ability to read friction loss charts. The schedule type was changed from lecture to lecture/lab and the corequisite course (393) was removed. The class is being adjusted to absorb the separate lab as hands on opportunities often occur simultaneously with lecture. ~~Addition of course objectives and a course 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.

N/A

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	Evaluate soil and water resources to determine the irrigation needs of crops or landscapes, and develop irrigation plans to optimize water use efficiency
2	Design irrigation systems for different applications, including drip, sprinkler, and flood irrigation, using appropriate irrigation components and hydraulic calculations
3	Analyze the physical and chemical properties of soil and water, including texture, structure, pH, and salinity, and make recommendations for soil and water management to improve irrigation efficiency and crop health
4	Identify and diagnose common irrigation system problems, such as clogging, leaks, or low pressure, and apply appropriate troubleshooting and repair techniques

Content outline

#	Topic
1	Role of irrigation water in turfgrass ~~agricultural~~ and landscape ~~turfgrass~~ systems
2	Water cycles and environmental monitoring ~~Water cycling~~
3	Soil moisture and plant stress
4	Determining irrigation requirements and timings
5	Irrigation delivery systems
6	Pipe and system hydraulics
7	Layout and design of irrigation systems ~~Design~~

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 232

Course Change Request

Date Submitted: 10/24/25 1:22 pm

Viewing: **PLSS ~~AGRO~~ 418 : Crop Disease Management ~~Plant Pathology~~**

Also listed as: ~~**AGRO 418**~~

Formerly known as: **AGRO 418 / BIOL 317**

Last approved: 12/05/23 3:18 am

Last revision: 10/24/25 1:22 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

AGRO 418:
Agronomy (AGRO)

Proposed Action

Active

Contact(s)

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

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. Course Inventory

Approval Path

1. 10/24/25 1:23 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 8, 2023 by William Willian (todd.willian)
2. Dec 5, 2023 by Scott Grubbs (scott.grubbs)

Review Type	Full Review ~~Expedited~~		
Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	PLSS - Plant & Soil Sciences ~~AGRO - Agronomy~~	Course number	418
Department	Agriculture		
College	Science and Engineering		
Course title	Crop Disease Management ~~Plant Pathology~~		
Abbreviated course title	CROP DISEASE MANAGEMENT ~~PLANT PATHOLOGY~~		

Course description

Introduction to common plant pathogens and diseases of agronomically important field and forage crops, turf, vegetables, and ornamentals; Topics include control measures, newly discovered diseases, and plant-pathogen interactions. 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)

NG-No Grade

Is this course intended to span more than one term?

No

Schedule type

~~Lab~~

~~Lecture~~

Lecture/Lab

CIP Code 260305 - Plant Pathology/Phytopathology.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRO 110	D	UG		
And		BIOL 120	D	UG		
And		AGRO 350	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

Combining HORT and AGRO prefixes into PLSS simplifies course selections for students. Title change better describes course content. ~~Additions of Student Learning Outcomes and Course 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.

N/A

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

Are you seeking Colonnade approval No

for this course?

Student Learning Outcomes

#	Student Learning Outcomes
1	Identify the major disease-causing organisms in plants.
2	Examine how these organisms cause disease and how the plant defends itself against the pathogen.
3	Compare control mechanisms and efficacy of various types of control strategies.
4	Identify some diseases that are easily recognizable due to their distinct characteristics.
5	Demonstrate the process by which one identifies a disease, how to properly collect diseased tissue, and where to send diseased plant samples for subsequent analysis.

Content outline

#	Topic
1	Introduction Types of Plant Pathogens Plant Pathogen Identification and Epidemiology Plant Disease Management Resistance of Plants to Pathogen Invasion Sample Collection and Analysis Options

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Course Change Request

Date Submitted: 09/30/25 4:32 pm

Viewing: PLSS ~~HORT~~ 419 : Principles of Fruit, Vegetable, and Viticulture ~~Vineyard~~ Production

Also listed as: ~~HORT 419~~

Formerly known as: HORT 419

Last approved: 12/12/23 10:11 am

Last revision: 09/30/25 4:32 pm

Changes proposed by: rgr79842

Catalog Pages referencing this course

HORT 419:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis ~~martin stone~~	roger.dennis@wku.edu ~~martin.stone@wku.edu~~	270-401-5032 ~~270-438-6923~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/01/25 8:04 am Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~

Course number: 419

Department: Agriculture

College: Science and Engineering

Course title: Principles of Fruit, Vegetable, and Viticulture ~~Vineyard~~ Production

Abbreviated course title: PRINCIPLES OF FRUIT, VEGETABLE ~~FRUIT, VEG, AND VINEYARD PROD.~~

Course description

Production of fruit, vegetables, and grapes (wine and table) that are particularly suited for Kentucky, considering variety selection, management, harvesting, processing, and marketing. 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: 010304 - Crop Production.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRO 110	D	UG		Yes

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Updating course title to better reflect course content.
Combining AGRO and HORT prefixes to simplify course selections for the students. ~~add course objectives and 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.

n/a

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	Apply principles of sustainable vegetable and fruit production to design and implement a cropping system that minimizes environmental impact and maximizes yield.

#	Student Learning Outcomes
2	Analyze the economic feasibility of various vegetable and fruit production enterprises and develop a business plan for a successful vegetable or fruit production operation.
3	Troubleshoot and resolve common vegetable and fruit production problems using integrated pest management and disease control strategies.

Content outline

#	Topic
1	Introduction to Vegetable and Fruit Production Overview of the vegetable and fruit industry Importance of fruits and vegetables in human nutrition Botanical classification of fruits and vegetables Plant growth and development Site Selection and Soil Preparation Factors affecting site selection for fruit and vegetable production Soil properties and their impact on plant growth Soil preparation techniques for different crops Planting and Propagation Propagation methods for fruits and vegetables Planting techniques for different crops Transplanting and hardening off seedlings Irrigation and Fertilization Irrigation requirements for fruits and vegetables Water management practices for efficient irrigation Nutrient requirements of fruits and vegetables Fertilization strategies for different crops Pest Management and Weed Control Identification and control of common fruit and vegetable pests Integrated pest management (IPM) strategies Weed control methods for different crops Harvesting and Storage Maturity indicators for different fruits and vegetables Harvesting techniques for minimizing damage and preserving quality Postharvest handling and storage of fruits and vegetables Sustainable Cropping Systems Principles of sustainable agriculture Organic fruit and vegetable production Integrated crop management (ICM) strategies

#	Topic
	Economic Considerations in Vegetable and Fruit Production Cost-benefit analysis of vegetable and fruit production enterprises Market analysis and pricing strategies Business plan development for fruit and vegetable operations Troubleshooting and Problem-Solving Identifying and diagnosing common fruit and vegetable production problems Developing solutions to production problems using IPM and disease control strategies Implementing corrective measures and evaluating their effectiveness Course Review and Final Exam Review of key concepts and principles covered in the course Final examination to assess student learning outcomes

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5242

Course Change Request

Date Submitted: 10/24/25 1:24 pm

Viewing: PLSS ~~AGRO~~ 454 : Soil ~~Management~~ and Water Conservation

Also listed as: ~~AGRO 454~~

Formerly known as: AGRO 454

Last approved: 09/27/23 3:17 am

Last revision: 10/24/25 1:24 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

AGRO 454:
Agronomy (AGRO)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Navdeep Singh ~~Becky Gilfillen~~	navdeep.singh@wku.edu ~~becky.gilfillen@wku.edu~~	270-745-3151 ~~(270) 745-5970~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 1:24 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Sep 27, 2023 by William Willian (todd.willian)

Academic Level Undergraduate

Course prefix (subject area) PLSS - Plant & Soil Sciences ~~AGRO - Agronomy~~

Course number 454

Department Agriculture

College Science and Engineering

Course title
Soil ~~Management~~ and Water Conservation

Abbreviated course title SOIL AND WATER CONSERVATION ~~SOIL MGMT & CONSERV~~

Course description
Economic utilization of land for agricultural, recreation and public purposes based on location and capability characteristics; interpretation and application of soil survey information for best interests in crop production, conservation, public and industrial use; practice in designing land use maps are stressed.

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 011201 - Soil Science and Agronomy, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		AGRO 350	D	UG		No

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Combining HORT and AGRO prefixes into PLSS simplifies course selections for students. Title change better reflects ~~To update~~ course content. ~~objectives and course 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.

N/A

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	Analyze readings about soil erosion including the Dust Bowl, and what led to this catastrophe.
2	Compare present day conditions with those of previous times to determine what practices can be utilized to lessen erosion losses.

#	Student Learning Outcomes
3	Use the web soil survey to make decisions about managing a farm containing several marketable commodities, including proper management of erosion.

Content outline

#	Topic
1	I Introduction to the course II Brief overview of conserving soil and water A. erosion problems B. problems to conservation C conservation practices and techniques III Erosion A. Civilizations role in erosion B. Geological erosion C. Water erosion and sedimentation D. Wind erosion and deposition IV Soil Surveys + Web Soil Survey A. Interpretation B. Managing Lands C. Land Use and Planning V Predicting Soil Loss A. Universal Soil Loss Equation (USLE) B. Revised Universal Soil Loss Equation (RUSLE) C. Water Erosion Prediction Project (WEPP) D. The Wind-Erosion Prediction Equation (WEQ) Water Conservation

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 309

Course Change Request

Date Submitted: 10/24/25 1:20 pm

Viewing: PLSS 476 ~~HORT 475~~ : Selected Topics in Horticulture ~~Agriculture~~

Also listed as: ~~HORT 475~~

Formerly known as: HORT 475

Last approved: 12/12/23 10:12 am

Last revision: 10/24/25 1:20 pm

Changes proposed by: wll99339

Catalog Pages referencing this course

HORT 475:

Department of Agriculture and Food Science

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Roger Dennis	roger.dennis@wku.edu	270-745-3151

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/24/25 1:20 pm Paul Woosley (paul.woosley): Approved for AGRI Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 12, 2023 by William Willian (todd.willian)

Academic Level: Undergraduate

Course prefix (subject area): PLSS - Plant & Soil Sciences ~~HORT - Horticulture~~

Course number: 476 ~~475~~

Department: Agriculture

College: Science and Engineering

Course title
Selected Topics in Horticulture ~~Agriculture~~

Abbreviated course title: SELECTED TOPICS IN HORT

Course description
Special topics acquaint advanced undergraduate students with scientific developments of current interest in agriculture. Appropriate topic titles are assigned. Lecture and assignments vary with credit. May be repeated with change in content. Note: Consent of instructor required.

Credit hours: 1-3

Repeatable
Yes
Number of repeats: 99
For maximum credits: 999

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: 010304 - Crop Production.

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

Department is blending HORT and AGRO prefixes into PLSS to simplify course selections for students. Title change better reflects course content. ~~Update Course Objectives~~

Is this related to other courses at WKU?

No

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

N/A

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	Identify, discuss, and interpret topical areas within the field of Horticulture. Topics of study vary within the broad range of disciplines in the Horticulture field.

Content outline

#	Topic
1	1. Introduction of topical area. 2. Discussion of topical area and its respective sub-categories or sub-disciplines. 3. Evaluation of student learning.

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5247

Course Change Request

Date Submitted: 09/30/25 12:39 pm

Viewing: BIOL 305 ~~212~~ : Genome Discovery & Exploration

Also listed as: ~~BIOL 212~~

Formerly known as: BIOL 212

Last approved: 12/05/23 3:18 am

Last revision: 10/09/25 10:37 am

Changes proposed by: smr85629

Catalog Pages referencing this course

BIOL 212:
Biology (BIOL)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Simran Banga ~~Scott Grubbs~~	simran.banga@wku.edu ~~scott.grubbs@wku.edu~~	270-745-3696

Review Type Full Review ~~Expedited~~

In Workflow

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

Approval Path

1. 10/09/25 10:37 am Douglas McElroy (doug.mcelroy): Approved for BIOL Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 5, 2023 by Scott Grubbs (scott.grubbs)

Term for implementation: Fall 2026

Academic Level: Undergraduate

Course prefix (subject area): BIOL - Biology

Course number: 305 ~~212~~

Department: Biological Sciences

College: Science and Engineering

Course title
Genome Discovery & Exploration

Abbreviated course title: GENOME DISCOVERY & EXPLORATION

Course description
Discovery, characterization, and genomic analysis of viruses from sample collection and purification through DNA isolation and analysis.

Credit hours: 3 ~~2~~

Repeatable
Yes
Number of repeats: 2
For maximum credits: 3 ~~2~~

Default grade type: Standard Letter

Alternate grade type(s):

Is this course intended to span more than one term?

No

Schedule type
Research

CIP Code: 260807 - Genome Sciences/Genomics.

Does this course have prerequisites

Yes ~~No~~

Prerequisites

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

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

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

The proposed revision are initiated for several reasons. First to change the the course level from 200- to 300-, second to change the credit hours from 2 to 3, and third to add 100- level prerequisites.
This is a project-based laboratory course and aligns well with other 300- level laboratory courses offered in the department. The addition of pre-requisites will align with the core requirements for the Biology 525 program as well as with other 300- level Biology courses. The course runs longer than 2 credit hour courses. Thus, an increase in credit hour will balance student workload. ~~Addition of Student Learning Outcomes and a Course 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.

No impact.

Is this course part of a program that leads Yes

to teacher certificate?

Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Explain the process of scientific inquiry and the importance of using controls in scientific experiments.
2	Identify reasons why a particular line of inquiry warrants investigation
3	Perform common laboratory techniques, explain the purpose of each technique, and identify the limitations of the technique.
4	Plan experiments, generate, record, and organize experimental data (using tables, diagrams, and drawings as appropriate), analyze and interpret data, and draw logical conclusions based upon collected data.
~~5~~	~~Plan experiments, generate, record, and organize experimental data (using tables, diagrams, and drawings as appropriate), analyze and interpret data, and draw logical conclusions based upon collected data.~~
5 ~~6~~	Differentiate bacterial colonies and bacteriophage plaques.
6 ~~7~~	Track expenses associated with a research project.
7 ~~8~~	Apply techniques in microbiology, molecular biology, and electron microscopy for the isolation and characterization of bacteriophages from the environment.
8 ~~9~~	Organize and disseminate data on web-based databases and communicate your research to the scientific community.
9 ~~10~~	Discuss the role of bacteriophages in the biosphere and on human health.

Content outline

#	Topic
1	Introduction to bacteriophage biology Pipetting with serological and pipetman style pipettes Laboratory safety including use of Bunsen burner Aseptic technique while plating Serial dilution Various bacterial plating techniques Plaque morphology, recognizing contamination, troubleshooting experimental issues Sterilization by filtration Working with multiple plates Isolation of genomic DNA from phage

#	Topic
	Restriction digestion of genomic DNA Gel electrophoresis Laboratory notebook skills Laboratory writeup/ poster presentation skills

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 1151

Course Change Request

Date Submitted: 09/30/25 12:40 pm

Viewing: BIOL 312 : Bioinformatics

Last approved: 12/05/23 3:18 am

Last revision: 09/30/25 12:40 pm

Changes proposed by: smr85629

Catalog Pages referencing this course

Biology (BIOL)

Department of Biological Sciences

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Simran Banga ~~Scott Grubbs~~	simran.banga@wku.edu ~~scott.grubbs@wku.edu~~	270-745-3696

Review Type Full Review ~~Expedited~~

In Workflow

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

Approval Path

1. 10/09/25 10:37 am Douglas McElroy (doug.mcelroy): Approved for BIOL Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 5, 2023 by Scott Grubbs (scott.grubbs)

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	BIOL - Biology	Course number	312
Department	Biological Sciences		
College	Science and Engineering		
Course title	Bioinformatics		
Abbreviated course title	BIOINFORMATICS		

Course description

Presentation of the theoretical underpinnings and the computational methods of nucleic acid and protein sequence analyses used in genomic work. An associated laboratory component will provide project-based application of these methods.

Credit hours 3 ~~4~~

Repeatable

Yes

Number of repeats 2

For maximum credits 3 ~~4~~

Default grade type Standard Letter

Alternate grade type(s)

NG-No Grade

Is this course intended to span more than one term?

No

Schedule type

~~Lab~~

~~Lecture~~

Lecture/Lab

CIP Code 261103 - Bioinformatics.

Does this course have prerequisites

Yes

Prerequisites

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

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

The proposed revision aims to:
a) add BIOL122 and BIOL123 as additional prerequisites. This addition of prerequisites aligns with the requirements of other 300-level Biology courses.
b) reduce the credit hours from 4 to 3. After reviewing the course content, it has been determined that the core learning objectives of the Bioinformatics course can be covered within 3 credit hours. This change will reduce student workload, prevent schedule issues, and create better balance within the curriculum. This change will not impact academic rigor or outcomes, as lab components and practical applications are integral components of the course.
c) Revise ~~Additions of~~ Student Learning Outcomes and Course 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.

No impact

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

Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1	Explain key concepts and approaches in bioinformatics ~~Compare and contrast DNA sequencing technologies.~~
2	Describe how bioinformatic data is generated, stored, organized, and analyzed ~~Discuss how computers are used to analyze biological data.~~
3	Apply computational tools to investigate protein, genetic, and genomic data ~~Discuss Central Dogma and describe the flow of information through biological systems.~~
~~4~~	~~Compare and contrast DNA sequencing technologies.~~
4 ~~5~~	Communicate bioinformatics findings effectively ~~Identify and discuss databases and how they are used~~ in written and oral formats ~~biology.~~
~~6~~	~~Apply software tools to analyze genetic information and predict gene function.~~
~~7~~	~~Annotate a genome and prepare appropriate files for submission to Genbank given raw DNA sequence data.~~
~~8~~	~~Develop research presentations based on the application of bioinformatics tools.~~
~~9~~	~~Draft a manuscript describing newly annotated bacteriophage genomes.~~

Content outline

#	Topic
1	Central Dogma: ~~Central Dogma and flow of information in biological systems.~~ ~~Define basics of bacteriophage biology and provide examples of how they can be used.~~ ~~DNA and protein sequencing (compare and contrast sequencing technologies).~~ ~~How DNA sequences are assembled and define"contigs".~~ ~~Given raw DNA sequence data, assess DNA sequence quality, define the orientation of a bacteriophage genome and identify to which cluster it belongs.~~ ~~Genome organization, sequence conservation and diversity.~~ ~~Biologicaldatabases:NCBI, EMBL, PDB.~~ ~~Multiple sequencealignments:tools:NCBI-BLAST, T-COFFEE, MEGA.~~

#	Topic
	~~Molecular evolution and phylogenetictrees:synteny and comparative genomics.~~ ~~Gene prediction and annotation tools using BLAST, Phamerator, PECAAN, DNAMaster~~ ~~Genomics:~~gene structure, regulation, ~~Defining Exons~~ and protein function Principles of biomolecule ~~alternative splicing plus ESTs.~~ ~~Protein secondary and tertiary structure prediction and~~ analysis: DNA sequencing and protein structure determination technologies. Genome and sequencing data analysis: organization, conservation, and diversity, with application to bacteriophage genomes Conserved genomic elements and comparative genomics Prediction ~~Given raw DNA sequence data, assess DNA sequence quality, define the orientation~~ of protein structure and function Molecular evolution and phylogenetic analysis Scientific writing and communication of research findings ~~a bacteriophage genome and identify to which cluster it belongs.~~ ~~Genome organization, sequence conservation and diversity.~~ ~~Biological databases:~~ ~~Alphafold, PDB.~~ ~~Predicting transmembrane proteins~~ ~~Protein structure-function relationships~~ ~~Annotation of bacteriophage genomes:PECAAN and DNA Master~~ ~~Molecular evolution of genes~~ ~~Systems biology~~ ~~Annotation project presentation~~ ~~Comparative genomics presentation~~

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Course Change Request

New Course Proposal

Date Submitted: 10/21/25 8:28 am

Viewing: **DISC 101 : Introduction to Global Disasters**

Last revision: 10/31/25 9:10 am

Changes proposed by: dvd62010

Programs referencing this course

: Disaster Science

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. 10/31/25 9:14 am Leslie North (leslie.north): Approved for GEO Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
David Oliver	david.oliver@wku.edu	270-745-4181
Josh Durkee	joshua.durkee@wku.edu	270-745-8777
Leslie North	leslie.north@wku.edu	270-745-4555

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	DISC - Disaster Science	Course number	101
Department	Geography & Geology		

College Science and Engineering

Course title
Introduction to Global Disasters

Abbreviated course title INTRO TO GLOBAL DISASTERS

Course description
A review of disasters from around the globe. Emphasis areas include casual factors, preparedness levels, casualties, direct and indirect impacts on people and infrastructure, and recovery. Students will gain perspective on the evolution of the practices associated with disaster preparedness, response, and recovery, and the impacts of disasters on various socioeconomic groups.

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 43.0302 - 43.0302

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 developing the proposed course

This is a foundational course required for the proposed bachelor of science degree in Disaster Science.

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 Noted

How many sections of this course per academic year will be offered?

1-2

How many students per section are expected to enroll in this proposed course?

25

How many students per academic year are expected to enroll?

50

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:

Based on projected student enrollment in Disaster Science Bachelors Program, and feedback from current students in Meteorology, Geological Sciences, and Environmental, Sustainability, and Geographic Studies who have expressed interest in disaster-related courses.

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 major types of global disasters—natural, technological, and human-caused—and summarize their historical and geographic impacts on societies worldwide.
2	Analyze the social, economic, and environmental factors that contribute to disaster vulnerability and apply this understanding to case studies from different global regions.
3	Evaluate the effectiveness of international disaster response and recovery strategies for selected disasters and propose recommendations to improve resilience in diverse cultural and political contexts.

Content outline

#	Topic
1	Introduction to Global Disasters and Disaster Trends and Data Sources
2	Geophysical Disasters
3	Meteorological, Hydro-logical, Climate and Environmental Disasters
4	Biological Disasters
5	Technological and Industrial Disasters
6	Human-Caused Disasters and Conflict
7	Social Dimensions of Disasters
8	Disaster Risk Reduction (DRR), Mitigation, Preparedness, Response, Recovery and Resilience Systems

Student expectations and requirements

Students enrolled in Survey of Global Disasters are expected to actively engage in weekly lectures, discussions, and case study analyses that explore the causes, impacts, and management of disasters worldwide. Regular attendance, thoughtful participation, and completion of assigned readings prior to class are required to promote meaningful dialogue and critical thinking. Students will complete a combination of written reflections, case study reviews, quizzes, and a final policy brief or project that demonstrates their understanding of global disaster systems and resilience strategies.

Tentative texts and
course materials

Potential text books are currently being reviewed. Many of the assignments will include the requirement for students to research various disaster types, select specific examples and report on findings using a variety of information sources.

Special equipment,
materials, or library
resources needed

None Required

Additional
information

Although some of the content in this course overlaps with material covered in GEOG 226, the purpose of DISC 101 is to offer a broader introduction to disaster science. Specifically, DISC 101 will include selected topics related to natural disasters, similar to GEOG 226, but it will also address additional categories of disasters, including biological, technological, industrial, and human-caused hazards and conflicts. The course will place particular emphasis on disaster planning, mitigation, response, recovery, and resilience systems, examining how these processes function across different types of disasters rather than focusing primarily on natural events.

Supporting
documentation

Reviewer Comments

Course Change Request

New Course Proposal

Date Submitted: 10/21/25 8:35 am

Viewing: DISC 200 : Applied Disaster Science Practices

Last revision: 10/31/25 9:35 am

Changes proposed by: dvd62010

Programs referencing this course

: Disaster Science

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. 10/31/25 9:35 am Leslie North (leslie.north): Approved for GEO Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
David Oliver	David.oliver@wku.edu	270-745-4181
Josh Durkee	Joshua.durkee@wku.edu	270-745-8777
Leslie North	Leslie.North@wku.edu	270-745-4555

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	DISC - Disaster Science	Course number	200
Department	Geography & Geology		

College Science and Engineering

Course title
Applied Disaster Science Practices

Abbreviated course title APPLIED DISASTER SCI PRACTICES

Course description
This course is designed to bridge theoretical understanding with real-world application in the field of disaster science. Students will engage in hands-on learning focused on the principles, tools, and methodologies used in disaster preparedness, response, recovery, and mitigation. Through case studies, simulations, and field-based exercises, participants will develop practical skills in risk assessment, emergency operations planning, inter-agency coordination, and community resilience building. Emphasis is placed on applying evidence-based practices and ethical decision-making to complex disaster environments, preparing students for careers in emergency management, public safety, and related fields.

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
Applied Learning
Lecture

CIP Code 43.0203 - 43.0203

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	DISC 101			)	Yes

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

Foundational course for newly proposed Bachelor of Science degree in Disaster Science.

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 Noted

How many sections of this course per academic year will be offered?

1-2

How many students per section are expected to enroll in this proposed course?

25

How many students per academic year are expected to enroll?

50

How were these projections calculated? Explain any supporting

evidence/data you have for arriving at these projections:

Based on projected student enrollment in Disaster Science Bachelors Program, and feedback from current students in Meteorology, Geological Sciences, and Environmental, Sustainability, and Geographic Studies who have expressed interest in disaster related courses.

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	Analyze real-world disaster case studies to identify key factors influencing preparedness, response, recovery, and mitigation outcomes.
2	Apply established disaster science methodologies and tools such as hazard assessment, incident command systems, and community resilience frameworks to practical disaster scenarios and simulations.
3	Evaluate the effectiveness of disaster management strategies and propose evidence-based improvements to enhance operational performance and inter-agency coordination when presented with case studies and/or functional exercise scenarios representing actual disasters and impacts.

Content outline

#	Topic
1	Introduction to Applied Disaster Science
2	Hazard Identification and Risk Assessment
3	Preparedness Planning and Capability Development
4	Incident Command System (ICS) and Emergency Operations Center (EOC) Management

#	Topic
5	Disaster Communications and Public Information
6	Response Operations, Field Coordination, Recovery and Continuity Operations
7	Mitigation and Resilience Strategies
8	Human and Social Dimensions of Disasters
9	Technology and Innovation in Disaster Practice

Student expectations and requirements

Students enrolled in Applied Disaster Science Practices are expected to actively engage in both classroom and field-based learning experiences that emphasize the practical application of disaster management principles. Regular attendance, participation in discussions, and collaboration during simulations and group projects are essential for developing applied skills and professional competencies. Students are expected to complete all assignments, exercises, and assessments on time, demonstrating critical thinking, problem-solving, and ethical decision-making in disaster contexts. Professional conduct, teamwork, and respect for diverse perspectives are required throughout the course, reflecting the interdisciplinary and cooperative nature of real-world disaster operations.

Tentative texts and course materials

Potential text books are currently being reviewed. Many of the assignments will include the requirement for students to research various disaster related documents and publications most being resident to FEMA and other governmental websites and online resources.

Special equipment, materials, or library resources needed

None Required

Additional information

Supporting documentation

Reviewer Comments

Key: 10116

Course Change Request

Date Submitted: 09/09/25 12:41 pm

Viewing: GEOG 391 : Geoscience Statistical ~~Data~~ Analysis

Last approved: 02/25/23 3:16 am

Last revision: 09/09/25 12:41 pm

Changes proposed by: jny86376

Catalog Pages referencing this course

Department of Earth, Environmental, and Atmospheric Sciences

Geography (GEOG)

Proposed Action

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. 10/20/25 9:16 pm Leslie North (leslie.north): Approved for GEO Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Feb 25, 2023 by Amy Nemon (amy.nemon)

Active

Contact(s)

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

Review Type	Full Review ~~Expedited~~
Term for implementation	Fall 2026
Academic Level	Undergraduate

Course prefix (subject area) GEOG - Geography

Course number 391

Department Geography & Geology

College Science and Engineering

Course title

Geoscience Statistical ~~Data~~ Analysis

Abbreviated course title GEOSCIENCE STATISTICS ~~DATA~~ ANALYSIS

Course description

Statistical concepts and methods emphasizing their applications in a spatial context. Statistical description and hypothesis testing, in the context of common geoscience datasets and analysis tools. ~~testing.~~ Visualization analysis of spatial patterns and relationships. Note: Special permission of instructor may be required.

Credit hours 4

Repeatable

Yes

Number of repeats 2

For maximum credits 4

Default grade type Standard Letter

Alternate grade type(s)

Is this course intended to span more than one term?

No

Schedule type

Applied Learning

Lecture

CIP Code 450701 - Geography.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	~~(~~	~~MATH 183~~	~~D~~	~~UG~~		
~~Or~~		~~MATH 136~~	~~D~~	~~UG~~	~~)~~	
~~And~~		GISC 316	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

No content is changing in the course we've taught for many years. We are simply changing the name to better align with student expectations. Specifically, the course focuses on applying statistical methods in analyzing geoscience data. Geoscience Statistical Analysis is a more suited course title.

The course covers much of the same content (see below topics under content outline) as MATH 183 but applies them specifically to geoscience datasets. There is no need to have the prerequisite of MATH 183.

In addition, MATH 136 is not needed as a prerequisite either because its content (one-variable calculus) is not the essential foundation of learning and applying statistics for a geospatial perspective. ~~Add Learning Outcomes and Content Outlines~~

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.

NA ~~na~~

Is this course part of a program that leads to teacher certificate?	No
Are you seeking Colonnade approval	No

for this course?

Student Learning Outcomes

#	Student Learning Outcomes
1	Understand the purpose, meaning, and use of statistics in scientific research in geosciences
2	Develop statistical concepts and a working knowledge of methods for descriptive and inferential analysis of in both non-spatial and geospatial data in geosciences
3	Develop competence in designing and carrying out statistical analyses in a computer-based environment
4	Develop and demonstrate skills in interpreting and communicating results of quantitative analyses from statistical perspective

Content outline

#	Topic
1	Descriptive Statistics Probability and Probability Distribution Discrete Probability Distribution Continuous Probability Distribution Central Limit Theorem Sampling Hypothesis Testing Analysis of Variances Correlation Analysis Regression Introduction to Geospatial Statistics

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 4051

Program Change Request

New Program Proposal

Date Submitted: 10/06/25 1:52 pm

Viewing: : Disaster Science

Last edit: 10/21/25 10:36 pm

Changes proposed by: dvd62010

Proposed Action

Active

Contact Person

Name	Email	Phone
Leslie North	leslie.north@wku.edu	270-745-4555
David Oliver	david.oliver@wku.edu	270-745-4181
joshua Durkee	joshua.durkee@wku.edu	270-745-8777

Term of Implementation	2026-2027
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science

In Workflow

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

Approval Path

1. 10/21/25 10:36 pm Leslie North (leslie.north): Approved for GEO Approval
2. 11/03/25 8:29 am Stuart Burris (stuart.burris): Approved for SC Dean

Department	Geography & Geology
College	Science and Engineering
Was your Notification of Intent (submitted to CPE by the Provost's Office) approved?	Yes
Program Name (eg. Biology)	Disaster Science

Will this program have concentrations?
No

CIP Code	43.0302 - Crisis/Emergency/Disaster Management.
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 Bachelors of Disaster Science builds upon traditional emergency management practices to include a better understanding of the complex causal relationships that yield the destructive outcomes trending in modern catastrophic events. This program prepares students to function effectively in all phases of the disaster cycle, with particular focus on preparedness, prevention, and mitigation efforts to lessen the potential for loss of life, property, and environmental impacts.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (52 hours)

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

Core Requirements		
DISC 101	Course DISC 101 Not Found	3
DISC 200	Course DISC 200 Not Found	3
METR 121	Meteorology	3
GEOG 226	Our Dangerous Planet	3

GEOG 300	Writing in the Geosciences	3
GISC 316	Geographic Information Systems I	4
GISC 317	Geographic Information Systems II	4
METR 324	Weather Analysis and Forecasting	3
METR 326	Applied Meteorology / Climatology	3
EMDS 400	Emergency Management Policy and Practices	3
EMDS 401	Natural and Technological Disaster Risks	3
EMDS 402	Resiliency in Response to Terrorism and Violence	3
EMDS 403	Advanced Disaster Planning, Management, and Preparedness	3
GEOG 499	Professional Preparation	1
Complete a minimum of 3 hours from these courses:		**3**
EMDS 404	Trends in Disaster Preparedness and Management	
GEOG 495	Applied Research, Independent Study, or Internship	
Additional Required Courses:		
MATH 136	Calculus I	4
MATH 183	Introductory Statistics	3
or STAT 301	Introductory Probability and Applied Statistics	
or GEOG 391	Geoscience Data Analysis	

Students will complete the requirements for a certificate in Emergency Management Disaster Science in the course of degree completion.

4-Year Plan

First Year

Fall	Hours	Spring	Hours
DISC 101	3	COMM 145	3
ENG 100	3	HIST 101	3
COLONNADE	3	ENG 200	3
MATH 117	3	EMDS 400	3
		COLONNADE	3
	12		15

Second Year

Fall	Hours	Spring	Hours
DISC 200	3	GEOG 300	3
GEOG 226	3	METR 121	3
COLONNADE	3	COLONNADE	3
ELECTIVE	3	EMDS 401	3
ELECTIVE	3	MATH 136	4
	15		16

Third Year

Fall	Hours	Spring	Hours

First Year

Fall	Hours	Spring	Hours
MATH 183 or STAT 301 OR GISC 316	3	GISC 317	4
GISC 316	4	COLONNADE	3
COLONNADE	3	ELECTIVE	3
COLONNADE	3	ELECTIVE	3
EMDS 402	3	ELECTIVE	3
	16		16

Fourth Year

Fall	Hours	Spring	Hours
EMDS 403	3	GEOG 495 or EMDS 404	3
GEOG 499	1	ELECTIVE	3
METR 324	3	ELECTIVE	3
ELECTIVE	3	ELECTIVE	3
ELECTIVE	3	ELECTIVE	3
ELECTIVE	3		
	16		15

Total Hours 121

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

No

Does this program include courses from outside your department?

No

Relation to Mission and Strategic Plan

Explain how the proposed program relates to the institutional mission and academic strategic plan.

1. Institutional Mission of WKU:

WKU's mission focuses on providing accessible, high-quality education, fostering intellectual growth, and preparing students to become responsible, engaged citizens. The mission also emphasizes the importance of community involvement and leadership in addressing regional and global challenges.

The B.S. in Disaster Science directly contributes to WKU's mission by preparing students to tackle complex global challenges, particularly those related to disasters and crisis management. By providing students with the skills to assess, manage, and respond to natural and man-made disasters, this program ensures that graduates are equipped to serve their communities and beyond. This supports WKU's aim to produce graduates who are prepared to engage with societal issues in meaningful ways.

2. Academic Strategic Plan of WKU:

WKU's academic strategic plan focuses on innovation in teaching, the enhancement of interdisciplinary learning, and fostering student engagement through experiential learning. The plan also emphasizes the importance of preparing students for global citizenship and addressing issues that have broad societal impacts.

The Bachelor of Science in Disaster Science fits well within the academic strategic plan by providing a multidisciplinary approach to learning, integrating science, policy, and crisis management. The program offers practical, hands-on experiences through internships, field exercises, and collaborations with emergency management agencies, which are key components of WKU's focus on experiential learning. Additionally, disaster management is a critical field in both global and local contexts, providing opportunities for students to engage with real-world issues and take leadership roles in crisis situations, aligning with WKU's commitment to developing responsible global citizens.

3. Community and Regional Impact:

Disaster science addresses issues such as climate change, natural hazards, public health crises, and human-made disasters—topics that are globally relevant and have significant local implications. WKU, located in Kentucky, a region susceptible to natural disasters (like tornadoes and floods), can benefit from producing graduates who are ready to manage and mitigate these risks, directly impacting regional safety and preparedness. At the same time, the global scope of the program equips students with knowledge and skills that have international applications.

4. Career Readiness and Workforce Development:

WKU emphasizes the development of career-ready graduates. The disaster science program offers students a direct pathway into various careers in emergency management, public safety, humanitarian response, and disaster recovery.

The program's focus on practical, applied skills means graduates are prepared for immediate employment in fields like government agencies, non-profits, private sector emergency services, and

international organizations, meeting the workforce demands in disaster management and crisis response. This aligns with WKU's strategic goal of producing graduates who are ready to contribute to the workforce and society.

The Bachelor of Science in Disaster Science at WKU supports the university's institutional mission and academic strategic plan by preparing students to address critical global and local challenges, fostering leadership and community engagement, and providing experiential learning opportunities that align with WKU’s broader goals of preparing responsible, well-rounded citizens ready to contribute to the world.

The National Oceanic and Atmospheric Administration (NOAA) reports in 2024, there were 27 individual weather and climate disasters with at least $1 billion in damages, trailing only the record-setting 28 events analyzed in 2023. These disasters caused at least 568 direct or indirect fatalities, which is the eighth-highest for these billion-dollar disasters over the last 45 years (1980-2024). The cost was approximately $182.7 billion. With this noted increase in the number and total impacts of disasters on the US and world, graduates of this program will be ready to serve key disaster preparedness, response, and recovery roles immediately.

Explain how the proposed program addresses the state's postsecondary education strategic agenda

A Bachelor of Science degree in Disaster Science aligns with and addresses key components of the state's post-secondary education Strategic Agenda by directly supporting goals related to workforce development, regional and global impact, innovation, and access to quality education. Here's how the program ties into the agenda:

1. Increasing Post secondary Credential Attainment:

Kentucky post secondary education agendas often prioritize increasing the number of individuals who earn degrees and credentials that contribute to workforce readiness and economic mobility.

The Bachelor of Science in Disaster Science supports this agenda by providing students with a specialized, relevant degree that directly prepares them for critical roles in disaster management, emergency services, and related fields. The program ensures that graduates earn a credential that is in high demand by employers in public safety, emergency management, and humanitarian sectors, directly supporting state goals of increasing degree attainment in fields that align with workforce needs.

2. Workforce Alignment and Economic Development:

A core element of many state post secondary education agendas is ensuring that higher education institutions produce graduates who meet the needs of the workforce and contribute to regional and state-level economic development.

The program addresses workforce needs by preparing students for careers in disaster management, emergency response, and crisis intervention, areas that are increasingly relevant due to the rise in natural and human-made disasters. As regions continue to face challenges such as climate change, pandemics, and other crises, disaster science graduates are essential to building a resilient workforce capable of addressing these challenges. This aligns with the commonwealth's goal to ensure that higher education programs produce graduates who are workforce-ready and able to contribute to state economic resilience.

3. Promoting Equity and Access to Higher Education:

Kentucky's strategic agendas often focus on improving access to education for under served populations, ensuring that all students, regardless of background, have opportunities to succeed in higher education and beyond.

The Bachelor of Science in Disaster Science can promote equity by offering a program that prepares students from all backgrounds to enter an important and growing field. This program is designed to offer flexibility delivery modalities allowing students to complete the requirements without physically being present on campus for some or a totality of the required coursework.

The focus on applied, interdisciplinary learning means students can engage in real-world experiences through internships, practicums, and collaborations with community-based disaster agencies.

This accessibility can open or expand existing career pathways for students, ensuring that the field of disaster science is positioned to support the bredth of the populations it serves, both locally and globally.

4. Addressing State and National Needs in Disaster Preparedness.

Kentucky's post secondary education agendas often include goals related to solving real-world problems, particularly those with state, regional, and national significance.

The Bachelor of Science in Disaster Science program addresses crucial needs within the Commonwealth by preparing professionals who can respond to disasters, improve public safety, and enhance emergency management infrastructure. Regions face numerous challenges, including natural disasters (e.g., floods, tornadoes, earthquakes) and man-made disasters (e.g., industrial accidents, terrorist threats), and disaster science professionals are critical in improving preparedness, response, and recovery efforts. The program aligns with the commoonwealth's strategic goals by ensuring that graduates have the skills needed to manage these issues and contribute to the state’s safety and resilience.

5. Expanding Research and Innovation:

Disaster Science programs encourage research and innovation in areas such as risk analysis, disaster recovery, and crisis management. The program can promote interdisciplinary research that integrates science, technology, and policy, contributing to the development of new solutions for disaster preparedness and response. This innovative approach aligns with state goals of encouraging research that addresses complex issues and promotes advancements in fields that have broad societal impacts.

Examples of current and planned research activities include:

Improving the quality and applicability of risk assessment processes in the Commonwealth
Assessing public emergency warning systems across the Commonwealth
Documenting critical natural hazard events and their impacts
Developing improved methods of measuring and predicting heat impacts for workers and athletes

6. Building Global Competency and Citizenship:

The Bachelor of Science in Disaster Science prepares students to engage not only with local and state-level disasters but also with global challenges. Graduates of the program will be ready to contribute to international disaster response efforts and humanitarian work, gaining the skills necessary to work in cross-cultural and global settings. This enhances the state's education agenda by preparing graduates who are capable of addressing global issues like climate change, pandemics, and international humanitarian crises.

Conclusion:

The Bachelor of Science in Disaster Science supports several key elements of the state’s Post secondary Education Strategic Agenda by contributing to workforce development, increasing credential attainment in high-demand fields, fostering innovation, promoting equity and access to

education, and addressing both state and global needs related to disaster preparedness and response. By providing a comprehensive, applied education in disaster management, this program helps students gain the skills needed to meet urgent societal challenges, align with state workforce goals, and contribute to both local and global resiliency.

Program Quality and Demand

Provide justification and evidence to support the need and demand for this proposed program. Include any data on student demand; career opportunities at the regional, state, and national level; and any changes or trends in the discipline that necessitate a new program.

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	Apply key concepts related to all phases of disasters, including Prevention, Preparedness, Mitigation, Response, and Recovery.	Measured on a variety of criteria including exam performance, quality of submitted assignments, interaction with group projects and discussions. etc
SLO 2	Develop and test mitigation and response plans by applying a variety of tools including planning and response frameworks, geographic information systems, risk assessments, etc.	Application elements will be measured through a combination of criteria including exam scores, successful completion of GIS coursework, and quality of projects submitted including sample plans, risk assessment findings, etc.
SLO 3	Gather, synthesize, and analyze data relative to the impacts of disasters on both people and the planet.	Evaluating the quality of analytical components of the program will include evaluation of the effectiveness of development and application of sampling criteria, evaluation methods selected and appropriately utilized, and relevance of findings.
SLO 4	Create comprehensive emergency operations plans, multi-hazard mitigation plans, exercises, training programs, and communication plans and outputs designed to improve outcomes of future disasters.	Evaluation of plans, exercises, training programs and communications tools and models will be based on established guidance including FEMA Comprehensive Planning Guide CP-101

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

Upload Assessment Plan: new_program_2024-2025 ASLO_ BS_DS_Final.docx

Change in Discipline (If the program is being proposed to meet changes in the academic discipline, please outline those changes and explain why they necessitate development of a new program.)

N-A

Specify any distinctive qualities of the program.

This proposed degree is a specialized degree focused on understanding, managing, and mitigating disasters. Some distinctive qualities of this degree include:

1. Interdisciplinary Approach - Combines elements of environmental science, engineering, public health, social sciences, and emergency management. Involves studying both natural (hurricanes, earthquakes) and human-made disasters (chemical spills, terrorist attacks), from a construct of science and practical analytical evaluation vs the traditional approach to emergency management programs based on policy and procedure.

2. Emphasis on Risk and Resilience - Focuses on disaster risk reduction (DRR) and resilience-building strategies. Covers hazard assessment, vulnerability analysis, and mitigation techniques.

3. Scientific and Technical Focus - Includes courses in GIS (Geographic Information Systems), remote sensing, data analysis, weather and climate modeling, with interdisciplinary task force structure for projects. Uses scientific methods to study hazards, early warning systems, and infrastructure resilience.

4. Emergency Response and Management Training - Involves crisis management, first responder coordination, and disaster communication strategies.Prepares students to develop and implement disaster response plans while operating within the parameters of the Incident Command and National Incident Management Systems.

5. Fieldwork and Practical Applications - Often includes hands-on training through simulations, fieldwork, internships, and case studies. Will involve practical applications working with emergency response agencies, NGOs, or state and local government disaster management organizations.

6. Global and Community Impact - Examines the social, economic, and political impacts of disasters. Encourages community engagement, preparedness education, and policy development.

7. Career-Oriented Skill Development - Prepares students for careers in emergency management, disaster risk reduction, environmental policy, humanitarian aid, and urban planning. Potential employers include government agencies (FEMA, UN, Red Cross), private sector (insurance, consulting), and nonprofits.

Does the proposed program differ from existing programs in terms of curriculum, focus, objectives, etc.?

Yes

Please explain

This program is developed with a scientific and technical focus with the core of curriculum residing in Earth, Environmental, and Atmospheric Sciences, coupled with strong rigor in Mathematics, Geographic Information Systems, etc.

Does the proposed program serve a different student population (i.e., students in a different geographic area, non-traditional students) from existing programs?

Yes

Please explain

This program will have a strong appeal to non-traditional students such as career professionals and the military as all areas of disaster management are needing personnel with advanced technical

acumen and analytic skill sets to solve increasingly more complex disaster inpacts.

Is access to existing programs limited?	No

Describe how the proposed program will articulate with related programs in the state. It should describe the extent to which students transfer has been explored and coordinated with other institutions.

This program will have a multi-faceted feeder network for students that include:

1) Traditional incoming students looking for a challenging career with ready job opportunities.

2) Students who have completed Associate Degrees in Fire Protection, Law Enforcement, Para medicine, Nursing, Geographic Information Systems, Environment Sciences, Occupations Safety, etc. who wish to pursue a Bachelors Degree in a related area.

3) Students who begin in a related discipline including Engineering, Meteorology, Earth Sciences, and want to pursue a degree that includes their original interest area but may afford a wider career trajectory.

Describe student demand data for this program.

Projected Enrollment

:

Year 1- 15 Year 2- 25 Year 3- 30 Year 4- 40 Year 5- 50

There is a strong demand for STEM degree programs focused on disaster science. This is evidenced in the success of two WKU certificate programs launched in 2018 in Emergency Management Disaster Science (EMDS) at both the undergraduate and graduate levels. These programs were launched, but due to several circumstances were not advertised or promoted by the normal marketing avenues.

Despite not being actively promoted through traditional marketing avenues, both certificate programs rapidly reached full or maximum class sizes and have continued to grow. Following the early success of the certificates, Dr. Cheryl Stevens, then dean of the WKU Ogden College of Science and Engineering, recommended that as part of the ongoing Comprehensive Academic Program Evaluation (CAPE) initiative, that the EMDS concept be merged into the existing Masters of Homeland Security Science (HSS) as an optional track. The HSS-EMDS option was launched in 2021 and rapidly grew to have the largest enrollment of the three options that comprise the current HSS program.

Graduates of both the EMDS certificate programs and HSS Masters have indicated very good success in securing employment or promotion to a higher position across a wide variety of business sectors.

Based on data from the Bureau of Labor Statistics, graduates with a bachelor’s in Disaster Science from WKU face moderate local and state demand (good prospects in county/city EM, campus roles, healthcare preparedness, NGOs and recovery contractors) and steady but modest national growth (BLS projects ~3% growth for emergency management

directors and roughly 1,000 openings/year nationally).

Describe workforce needs and career outcomes for graduates of this program.

Graduates of a B.S. in Disaster Science can pursue various careers in government, private sector, and nonprofit organizations:

Emergency Management Specialist – Works with government agencies (FEMA, DHS) to support disaster planning and response..

Disaster Recovery Coordinator – Helps communities rebuild after disasters, ensuring long-term resilience.

Crisis Communication Specialist – Develops messaging strategies for disaster response.

Hazard Mitigation Planner – Works on reducing disaster risks through urban planning and policy implementation.

Climate Risk Analyst – Assesses climate-related risks for businesses and governments.

GIS Analyst for Disaster Management – Uses mapping technology to predict and track disasters.

Public Health Emergency Coordinator – Works with hospitals and health departments to prepare for pandemics and biohazards.

Humanitarian Logistics Officer – Manages disaster relief supply chains for organizations like the Red Cross or UN.

Disaster Resilience – Designs infrastructure that can withstand extreme weather and earthquakes.

Flood & Stormwater Management Consultant – Helps cities prepare for flooding and storm surges.

Research Scientist in Disaster Studies – Conducts academic research on disaster trends and mitigation strategies.

Will this program replace or enhance any existing program(s) or concentration(s) within an existing program?

No

Program Demand Data and Support Documents	cpe-notification-of-intent-program-summary-BS Disaster Science WKU 9_27_2025 Final.docx

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
WKU Regional Campuses	15
WKU Online and OnDemand	30

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.

78

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

72

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

No

Are there any in-person on-campus requirements?

No

Does this program have experiential learning (practicum/internship/clinical)?

Yes

If YES, how is a student required to complete the experience?

In-Person
On-Campus
Virtually

Does this program lead to professional licensure (excluding teaching certification)?

No

Library Resources

Attach library resources

libresourcerev(1) BS Disaster Science.docx

Rationale for the program proposal?

Delivery Mode: The Bachelors Disaster Science will be a hybrid program with courses ranging from hybrid classroom to online. Students may complete all program requirements online or remotely in the case of the hybrid classroom offerings.

CPE Proposal

Additional Attachments: cpe_course_spreadsheet_BS_Disaster Science_DRAFT_10_03_2025_Final.xlsx

Additional information or attachments

Reviewer Comments

Key: 416

Program Change Request

New Program Proposal

Date Submitted: 10/23/25 5:18 pm

Viewing: : Environmental, Earth, and Sustainability Sciences

Last edit: 10/26/25 4:59 pm

Changes proposed by: ryh84947

In Workflow

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

Approval Path

1. 10/31/25 9:12 am Leslie North (leslie.north): Approved for GEO Approval
2. 11/03/25 8:29 am Stuart Burris (stuart.burris): Approved for SC Dean

Proposed Action

Active

Contact Person

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

Term of Implementation	2026-2027
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	Geography & Geology
College	Science and Engineering

Was your Notification of Intent (submitted to CPE by the Provost's Office) approved?	No
Program Name (eg. Biology)	Environmental, Earth, and Sustainability Sciences

Will this program have concentrations?
Yes

Concentrations
Concentrations
Environmental and Sustainability Sciences (ENSS)
Environmental and Geological Sciences (ENGS)

CIP Code	03.0104 - Environmental Science.
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 B.S. in Environmental, Earth, and Sustainability Sciences (EESS) equips students to understand and solve environmental challenges through an integrated study of environmental sciences, geosciences, sustainability, and environmental management. Graduates pursue careers in environmental consulting and compliance, geoscience, GIS/remote sensing, sustainability planning, natural resource and environmental management, geotechnical and engineering support, climate and conservation, government agencies, or continue to graduate study and Professional Geologist (PG) licensure pathways.
Through immersive fieldwork, laboratory analysis, and geospatial/data-science training, students learn to analyze complex environmental and geoscience problems while building strong foundations in scientific writing, quantitative reasoning, and professional communication. Students choose between two concentrations: **Environmental & Sustainability Sciences**, which focuses on global sustainability, environmental processes and resource management, and geospatial applications; and **Environmental & Geological Sciences**, which focuses on earth materials and environmental processes, energy and critical minerals, and hydrology, and aligns with PG licensure preparation.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (48-53 hours)

The major in Environmental, Earth, and Sustainability Sciences (EESS) requires a minimum of 48-53 hours and leads to a Bachelor of Science degree. Other required math and science cognate courses total an additional 6-9 hours. No minor is required.

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.

Common Core: 21-24 hours		
GEOG/GEOL 103	Our Dynamic Planet	3-4
or GEOL 111 & GEOL 113	The Earth and The Earth Laboratory	
GEOG 280	Environmental Science and Sustainability	3-4
or GEOL 250	Environmental Geology	
GEOG 295	Introduction to Research Techniques	3
or GEOL 380	Introductory Field Techniques	
GISC 316	Geographic Information Systems I	4
GEOG 300	Writing in the Geosciences	3
GEOG 391	Geoscience Data Analysis	4
GEOG 499	Professional Preparation	1-2
or GEOL 499	Professional Preparation in Geology	
Total Hours		21-24
Environmental and Sustainability Sciences Concentration (31 hours)		
GEOG 110	World Regional Geography	3
GISC 317	Geographic Information Systems II	4
GEOG 380	Global Sustainability	3
or GEOG 480	Sustainable Cities	
GEOG 495	Applied Research, Independent Study, or Internship	3
or GEOG 452	Applied Geoscience Field Experiences	
Electives		
Elective coursework selected from any GEOG, GISC, METR, EMDS, or GEOL 200-400 level course with advisor approval. Up to six hours may be taken outside of the department with advisor approval.		18
Total Hours		31
Environmental and Geological Sciences Concentration (25 hours)		
GEOL 112	Earth's Past and Future	3
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 301	Earth's Climate in Time	3
GEOL 310	Global Hydrology	3
or GEOL 440	Hydrogeology	
or GEOL 311	General Oceanography	
GEOL 420	Geomorphology	3
or GEOL 399	Research Problems in Geology	
Total Hours		25
Additional requirements for both concentrations (Select two from the following) (6-9 hours)		
BIOL 120 & BIOL 121	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab	4
or BIOL 122 & BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab	
BIOL 226 & BIOL 227	Microbial Biology and Diversity and Microbial Biology and Diversity Lab	3-4
or BIOL 315	Ecology	
CHEM 105 & CHEM 106	Fundamentals of General Chemistry and Fundamentals of General Chemistry Laboratory	4-5
or CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	
AGRO 350	Soils	3
CS 170	Problem Solving and Programming	3-4
or CS 180	Computer Science I	
or GISC 414	Remote Sensing Fundamentals	
or GISC 417	GIS Analysis & Modeling	
or GISC 419	GIS Programming	
DATA 301	Big Data with its Applications	3
or STAT 330	Introduction to Statistical Software	
MATH 136	Calculus I	4
PHYS 180 & PHYS 181	Introductory Modern Physics and Introductory Modern Physics Laboratory	4
or PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	

4-Year Plan

EESS - Environmental and Geological Sciences (ENGS) 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
GEOG 175	2	GEOL 250	3
COMM 145	3	Colonnade - Quantitative Reasoning	3
HIST 101 or HIST 102	3		
	15		13

Second Year

Fall	Hours	Spring	Hours
GEOL 380	3	GEOL 350	4
GISC 316	4	GEOL 360	4
GEOL 301	3	Additional Science Requirement - 1	4
Colonnade Explorations - Arts & Humanities	3	Colonnade Connections - Social & Behavioral	3
Independent Research (GEOL 399)	3		
	16		15

Third Year

Fall	Hours	Spring	Hours
GEOL 408	4	GEOL 420	3
GEOG 300	3	GEOG 391	4
GEOL 399	2	GEOL 310 or GEOL 311	3
Colonnade Connections - Local to Global	3	General Elective	3
Additional Science Requirement-2 (CS 170)	3		3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
GEOL 499	2	Field Study/Internship	3
Independent Research (GEOL 399)	3	Independent Research (GEOL 399)	3
General Elective	4	General Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
	15		15

Total Hours 120

EESS - Environmental and Sustainability Sciences (ENSS) concentration

First Year

Fall	Hours	Spring	Hours
GEOG 103 or GEOL 111	3	GEOG 110	3
ENG 100	3	GEOG 280	4
COMM 145	3	ENG 200	3
HIST 101 or HIST 102	3	ENSS Concentration Elective	3
GEOG 175	2	Colonnade - Quantitative Reasoning	3
	14		16

Second Year

Fall	Hours	Spring	Hours
GISC 316	4	GEOG 300	3
GEOG 295	3	GISC 317	4
ENSS Concentration Elective	3	Colonnade Connections - Local to Global	3
Colonnade Explorations - Arts & Humanities	3	ENSS Concentration Elective	3
Colonnade Connections - Systems	3	Additional Science Requirements - 1	3
	16		16

Third Year

Fall	Hours	Spring	Hours
GEOG 452 or GEOG 495	3	GEOG 380 or GEOG 480	3
Additional Science Requirement - 2	3	GEOG 391	4
ENSS Concentration Elective	3	ENSS Concentration Elective	3
ENSS Concentration Elective	3	Independent Research	3
Colonnade Connections - Social & Cultural	3	General Elective	3
	15		16

Fourth Year

Fall	Hours	Spring	Hours
Independent Research	3	GEOG 499	1
General Elective	3	Independent Research	3
General Elective	3	Field Study/Internship	3
General Elective	3	General Elective	3
General Elective	3	General Elective	2
	15		12

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?
Paul Woosley	October 2025
Matt New	October 2025
Kanita DuCloux	October 2025

Who approved including these courses?	When were they approved?
Mike Carini	October 2025
Doug McElroy	October 2025
Mark Cambron	October 2025

Relation to Mission and Strategic Plan

Explain how the proposed program relates to the institutional mission and academic strategic plan.

The Environmental, Earth, and Sustainability Sciences program supports WKU's mission to prepare students to be productive, engaged citizens and leaders. By preparing graduates to analyze and solve environmental and geoscience problems through field and lab experiences, geospatial/data-science training, internships, and a capstone-learning, the program fosters critical thinking, collaboration and problem-solving skills that align with the university's commitment to applied research and serving as a regional lighthouse.

The concentrations address pressing environmental challenges affecting Kentucky and beyond, including climate variability, water resources, land-use change and sustainable development. Through partnerships with local industries, agencies and community organizations, students gain hands-on experience and contribute to the economic and environmental well-being of the region. The program thus advances the strategic goals of academic excellence, student success, and stewardship.

Explain how the proposed program addresses the state's postsecondary education strategic agenda

The program advances Kentucky's postsecondary education strategic agenda by aligning with state goals for talent development, economic innovation, and community well-being. By preparing graduates with expertise in environmental science, geoscience, and sustainability, the program addresses critical workforce needs in environmental consulting, resource management, infrastructure planning, and public health. It supports statewide priorities in water quality, climate resilience and sustainable development, and strengthens regional capacity to attract employers.

The merger of two existing degrees increases efficiency and broadens access to high-quality STEM education for students from south-central Kentucky and beyond, contributing to the Commonwealth's objective of increasing educational attainment and creating a competitive, skilled workforce.

Program Quality and Demand

Provide justification and evidence to support the need and demand for this proposed program. Include any data on student demand; career opportunities at the regional, state, and national level; and any changes or trends in the discipline that necessitate a new program.

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	Apply fundamental environmental and Earth science principles to analyze interactions among Earth's physical, chemical, and biological systems and the interdependence of natural and human processes.	Direct measurement: In their senior year, all graduating students must complete the capstone course, GEOG 499/GEOL 499: Professional Preparation. As part of this course, students take a comprehensive Assurance of Student Learning (ASL) exit exam that includes several essay questions designed to assess SLO 1.
SLO 2	Apply appropriate field and laboratory techniques to collect, analyze, and interpret environmental/Earth/sustainability datasets, demonstrating awareness of data quality and uncertainty.	Direct measurement: In their senior year, all graduating students must complete the capstone course, GEOG 499/GEOL 499: Professional Preparation. As part of this course, students take a comprehensive Assurance of Student Learning (ASL) exit exam that includes several essay questions designed to assess SLO 2.
SLO 3	Evaluate contemporary earth- and environment-related challenges through social, cultural, and ethical lenses; develop evidence-based, sustainable solutions; and communicate findings effectively to technical and public audiences.	Direct measurement: In GEOG 300: Writing in the Geosciences, students complete a capstone research proposal and presentation. In the written proposal, students must demonstrate the ability to design an original research project addressing a contemporary Earth- and environment-related challenge. They are expected to situate their work within an appropriate methodological and/or technological framework and support their arguments with a complete, comprehensive literature review. Students must also prepare and deliver a presentation of the proposed research to their peers and a panel of department faculty, including the course instructor.

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

Upload Assessment Plan ASL_EESS_new_program_2026-27.docx

Change in Discipline (If the program is being proposed to meet changes in the academic discipline, please outline those changes and explain why they necessitate development of a new program.)

Over the past decade, the environmental sciences and geosciences have converged into an integrated, data-rich, problem-solving discipline. This program results from merging the B.S. in Environmental, Sustainability, and Geographic

Studies (ESGS) and the B.S. in Geological Sciences to reflect the interdisciplinary nature of modern environmental science and to eliminate duplication. Advances in GIS technology, climate science and sustainability have blurred disciplinary boundaries, and employers increasingly seek graduates with integrated expertise. The combined curriculum meets these changes by offering a strong common core and flexible concentrations while streamlining administration and ensuring efficient use of faculty and resources.

The legacy split between ESGS and Geological Sciences created overlapping cores and fragmented student pathways; a single, integrated degree aligns with how the discipline is now organized and taught. Contemporary Earth problems, climate impacts, groundwater stress, geohazards, critical-mineral supply, require a single curriculum that links Earth systems, human-environment dynamics, and sustainability practice rather than siloed degrees.

Specify any distinctive qualities of the program.

Distinctive features of the program include its integration of environmental sustainability and geoscience within a single degree; a strong common core combined with two concentrations to customize student pathways; extensive hands-on learning through field courses, labs, and research projects; and advanced training in GIS and geospatial analysis. WKU's strengths in hydrology and karst science, Crawford Hydrology Lab, CHNGES, Geospatial Technologies Lab, Kentucky Mesonet and numerous regional partnerships provide students with unique experiential opportunities. The program also emphasizes professional preparation through internships, capstone seminars and engagement with community and industry partners.

Does the proposed program differ from existing programs in terms of curriculum, focus, objectives, etc.?

Yes

Please explain

The Bachelor of Science in Environmental, Earth, and Sustainability Sciences (EESS) consolidates WKU's existing B.S. in Environmental, Sustainability, and Geographic Studies (CIP 03.0103) and B.S. in Geological Sciences (CIP 40.0601) into a single degree under CIP 03.0104 (Environmental Science). Integrated curriculum (single degree, two tracks) unites sustainability, environmental science, and geology in one coherent program, reducing duplication while preserving clear workforce and PG licensure pathways.

Does the proposed program serve a different student population (i.e., students in a different geographic area, non-traditional students) from existing programs?

No

Is access to existing programs limited?

No

Describe how the proposed program will articulate with related programs in the state. It should describe the extent to which students transfer has been explored and coordinated with other institutions.

The program (EESS) will articulate with related programs through established transfer pathways with the Kentucky Community and Technical College System (KCTCS) and other regional institutions. Lower-division coursework in environmental science, geology, geography, chemistry, and biology taken at two-year colleges will transfer seamlessly into the EESS program. Faculty will work with partner institutions to develop advising materials to ensure that transfer students can complete the degree in a timely manner. The concentrations mirror existing pre-major tracks offered at partner institutions, ensuring that transfer students can progress without loss of credit.

Describe student demand data for this program.

Enrollment trends in the existing Environmental, Sustainability and Geographic Studies and Geological Sciences programs have been stable to growing, and demand for courses in GIS, sustainability and earth systems consistently exceeds available sections. WKU's open house and recruitment data show strong interest from prospective students in environmental and sustainability majors, with many seeking flexible interdisciplinary programs. The proposed program offers two clear concentrations, which align with student interest areas identified through surveys and advising sessions. Consolidation is expected to maintain or increase overall enrollment by providing a more comprehensive and marketable degree.

Describe workforce needs and career outcomes for graduates of this program.

According to the U.S. Bureau of Labor Statistics, employment of environmental scientists and specialists is projected to grow by about 5% and geoscientists by about 6% from 2022 to 2032. The program responds to regional workforce needs for professionals trained in GIS, hydrology, environmental compliance, geosciences, sustainability planning and natural resource management. Graduates will be competitive for positions in environmental consulting firms, engineering companies, government agencies, non-governmental organizations and industry. Many will also pursue advanced degrees in environmental science, geology, geography or allied fields or work toward professional geologist licensure. The integration of sustainability and geoscience, combined with strong quantitative and communication skills, will produce versatile professionals who can address complex environmental challenges.

Will this program replace or enhance any existing program(s) or concentration(s) within an existing program?

Yes

Please specify the existing program

Program(s)
Environmental, Sustainability, and Geographic Studies, Bachelor of Science
Geological Sciences, Bachelor of Science

Program Demand Data and Support Documents

EESS_cpe-notification-of-intent-program-summary-2026-27_FINAL.docx

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.

20%

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

80%

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

No

Are there any in-person on-campus requirements?

Yes

If YES, please explain:

This program requires in-person field courses, laboratory sessions, and internships/research that cannot be completed remotely.

Does this program have experiential learning (practicum/internship/clinical)?

Yes

If YES, how is a student required to complete the experience?

In-Person
On-Campus

Does this program lead to professional licensure (excluding teaching certification)?

Yes

If YES, please identify the organization that grants licensure and any states WKU students will be licensed in when the degree is earned.

National Association of State Boards of Geology (ASBOG). Students in the Environmental & Geological Sciences concentration can receive the Professional Geologist (PG) license after passing the ASBOG exams and completing 4–5 years of professional experience.

Library Resources

Attach library resources

Library Resources_EESS.docx

Rationale for the program proposal?

This program consolidates two existing degrees - Environmental, Sustainability & Geographic Studies and Geological Sciences - into a single interdisciplinary Bachelor of Science that better reflects the interconnectedness of Earth, environmental, and sustainability sciences. By combining the core strengths of both programs, it eliminates duplication, streamlines course offerings, and provides students with a coherent pathway that integrates geoscience, environmental policy, hydrology, and geographic information science.

The Western Kentucky region, siting atop extensive karst terrain, faces pressing challenges related to climate resilience, water resources, land-use change, and environmental justice; employers need graduates with cross-disciplinary training who can collect and analyze data, apply geospatial tools, and communicate science to diverse audiences. This reimagined program responds to workforce demand for environmental scientists, geoscientists, GIS analysts, and sustainability professionals, while maintaining pathways to professional geologist licensure. The program advances WKU's mission to support applied research and community engagement in addressing regional and global environmental challenges.

CPE Proposal

Additional Attachments: WKU_EESS_CPE_CourseSpreadsheet.xlsx

Additional information or attachments

Please see attached CPE Notice of Intent, Full Proposal, Curriculum Deck (Course Spreadsheet), and Assessment Plan. Current library resources are adequate, and Library Resources attachment will be provided by the university library.

Reviewer Comments

Key: 422

Course Change Request

Date Submitted: 10/03/25 12:46 pm

Viewing: MATH 405 : Numerical Analysis I

Also listed as: CS 405

Last approved: 12/13/23 3:18 am

Last revision: 10/03/25 12:46 pm

Changes proposed by: rch75904

Catalog Pages referencing this course

CS 405:
Computer Science (Univ) (CS)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Mikhail Khenner ~~Ngoc Nguyen~~	mikhail.khenner@wku.edu ~~ngoc.nguyen@wku.edu~~	2707452797 ~~2704219876~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/03/25 11:12 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Dec 13, 2023 by Ngoc Nguyen (ngoc.nguyen)

Academic Level: Undergraduate

Course prefix (subject area): MATH - Mathematics (Univ)

Course number: 405

Department: Mathematics

College: Science and Engineering

Course title
Numerical Analysis ~~I~~

Abbreviated course title: NUMERICAL ANALYSIS ~~I~~

Course description
Computer arithmetic, numerical methods for approximation ~~roots~~ of roots of equations, polynomial approximation ~~approximation~~ and interpolation, ~~numerical~~ differentiation and integration, and initial and boundary value problems in ordinary differential equations. ~~integration. Computer solutions of problems will 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: 270101 - Mathematics, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		MATH 137	C	UG		
And	(	MATH 310 ~~237~~	C	UG		

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
Or		MATH 307	C	UG	)	
~~Or~~		~~MATH 310~~	~~C~~	~~UG~~	~~)~~	
And	(	CS 170 ~~146~~	C	UG		
Or		CS 180	C	UG	)	
And		MATH 331	C	UG		

Corequisites

Equivalent Courses

CS 405

Department

Engineering & Applied Sciences, School of

College

Science and Engineering

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Due to introduction of a Graduate Concentration in Data Science and a Graduate Certificate in Statistical Data Science we need to move numerical methods for initial and boundary value problems in ordinary differential equations from MATH 406/406G to MATH 405/405G. ~~Adding student learning outcomes and course content.~~

Is this related to other courses at WKU?

No

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

Dr. Guangming Xing, School of Engineering and Applied Sciences (01/10/2025) ~~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	Solve nonlinear equations using basic numerical methods.
2	Use numerical methods for interpolation of functions.
3	Use numerical methods for differentiation and integration.
4	Use numerical methods in approximation theory.
5	Solve ordinary differential equations using various numerical methods. ~~Master analyses of convergence and complexity.~~
6	Identify and apply appropriate numerical methods for a given problem and quantify the error in the numerical solution.
7	Analyze and interpret convergence, sensitivity to round-off errors, and complexity.

Content outline

#	Topic
1	Computer arithmetic.
2	Roots of equations.
3	Polynomial approximation and interpolation.
4	Numerical differentiation and integration.
5	Numerical methods for ordinary differential equations.

Student expectations and

requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5840

Course Change Request

Date Submitted: 10/03/25 12:46 pm

Viewing: MATH 406 : Numerical Linear Algebra with Applications in Data Science ~~Numerical Analysis II~~

Last approved: 11/28/23 3:18 am

Last revision: 10/03/25 12:46 pm

Changes proposed by: rch75904

Catalog Pages referencing this course

Department of Mathematics

Mathematics (MATH)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Richard Schugart ~~Ngoc Nguyen~~	richard.schugart@wku.edu ~~ngoc.nguyen@wku.edu~~	9415246066 ~~2704219876~~

Review Type: Full Review ~~Expedited~~

Term for implementation: Fall 2026

In Workflow

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

Approval Path

1. 10/03/25 11:12 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 11/03/25 8:33 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 28, 2023 by Ngoc Nguyen (ngoc.nguyen)

Academic Level: Undergraduate

Course prefix (subject area): MATH - Mathematics (Univ)

Course number: 406

Department: Mathematics

College: Science and Engineering

Course title

Numerical Linear Algebra with Applications in Data Science ~~Numerical Analysis II~~

Abbreviated course title: NUM LIN ALG APP DATA SCI ~~NUMERICAL ANALY II~~

Course description

Numerical ~~The~~ solution of linear systems of equations by direct and iterative methods, matrix inversion, computation of eigenvalues, singular values, ~~the calculation of eigenvalues~~ and eigenvectors of matrices, including QR Algorithm and SVD. ~~of matrices.~~ Numerical methods for nonlinear systems of equations. Numerical linear algebra algorithms for clustering, classification, and regression. At least one topic from Fast Fourier Transform, Monte Carlo simulations, or optimization with applications. ~~Initial and boundary value problems in ordinary differential equations.Computer solution of problems will 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: 270101 - Mathematics, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		MATH 237	C	UG		
And		MATH 307	C	UG		
~~And~~		~~MATH 331~~	~~C~~	~~UG~~		
And	(	MATH 405	C	UG		
Or		CS 405	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

In order to introduce a Concentration in Data Science and a Certificate in Statistical Data Science, we would like to modify MATH 405/405G and MATH 406/406G so that we can add a few data science algorithms that use numerical linear algebra techniques. This will expose students to both select algorithms and their underpinnings. ~~Adding student learning outcomes and content.~~

Is this related to other courses at WKU?

No

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

Dr. Guangming Xing, School of Engineering and Applied Sciences (01/10/2025) ~~None.~~

Is this course part of a program that leads No

to teacher certificate?

Are you seeking Colonnade approval for this course?	No

Student Learning Outcomes

#	Student Learning Outcomes
1 ~~2~~	Apply ~~Solve linear systems by~~ direct and iterative methods to solve linear systems of equations. ~~methods.~~
2 ~~4~~	Compute ~~Calculate~~ eigenvalues and eigenvectors of matrices.
3 ~~5~~	Solve nonlinear systems of equations using numerical methods.
4 ~~1~~	Apply numerical linear algebra techniques to select data science algorithms. ~~Solve differential equations using various numerical methods.~~
5 ~~3~~	Identify and ~~Choose the best numerical method to~~ apply appropriate numerical methods for ~~to solve~~ a given problem and ~~and~~ quantify the error in the numerical ~~(approximate)~~ solution.
6	Analyze and interpret convergence, sensitivity to round-off errors, and complexity. ~~Complete analyses of convergence and complexity.~~

Content outline

#	Topic
1	Solution ~~The solution~~ of linear algebraic systems by direct and iterative methods.
2	Numerical matrix ~~Matrix~~ inversion.
3	Computation ~~The calculation~~ of eigenvalues and eigenvectors of matrices.
4	Computation of solutions to nonlinear algebraic systems.
5 ~~4~~	Applications of data science algorithms using numerical linear algebra techniques. ~~Initial and boundary value problems in ordinary differential equations.~~
6	One of: Computation of Fast Fourier Transform, Monte Carlo simulations, numerical optimization with applications (instructor's choice)

Student expectations and requirements

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Key: 5842

Course Change Request

New Course Proposal

Date Submitted: 10/03/25 12:45 pm

Viewing: **STAT 480 : Advanced Statistical Data Analysis**

Last revision: 10/03/25 12:45 pm

Changes proposed by: rch75904

Programs referencing this course

417: Mathematics, Minor (Minor for Employment in Industry and/or Graduate Studies in Mathematics)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Lukun Zheng	lukun.zheng@wku.edu	9802530563

Term for implementation	Fall 2026		
Academic Level	Undergraduate		
Course prefix (subject area)	STAT - Statistics	Course number	480
Department	Mathematics		
College	Science and Engineering		
Course title			

In Workflow

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

Approval Path

1. 10/03/25 11:12 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 11/03/25 8:34 am Stuart Burris (stuart.burris): Approved for SC Dean

Advanced Statistical Data Analysis

Abbreviated course title: Adv Stat Data Analysis

Course description

A comprehensive introduction to statistical techniques widely used in data analysis, machine learning, and big data applications. Using statistical reasoning and computational tools to explore, visualize, and interpret data, with a focus on real-world applications. An emphasis on both the theoretical understanding and practical implementation of statistical methods in the context of data science. Topics include regression analysis, classification, clustering, etc.

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

Applied Learning

Lecture

CIP Code: 270601 - Applied Statistics, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		STAT 301	C	UG		No
Or		MATH 482	C	UG		Yes

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

None

Reason for developing the proposed course

With the rise of big data and the increasing demand for data-driven decision-making across various industries, there is a growing need for professionals proficient in both statistics and data science. Advanced Statistical Data Analysis course is designed to fill this need by equipping students with the critical theoretical development and statistical tools/techniques required to analyze large datasets and extract meaningful insights. It will help prepare students for careers in data analysis, machine learning, and applied statistics, while also laying a solid foundation for further studies in statistical data science.

At Undergraduate Level (STAT 480):
This course will be a requirement for undergraduate students in the Fundamentals of Applied Mathematics Concentration, and elective in other undergraduate concentrations.

728 Major:
Add STAT 480 as an Elective.
528 Major:
(i) Add STAT 480 as an Elective for the Fundamentals of Analysis and Discrete Mathematics Concentration.
(ii) Replace MATH 370 with STAT 480 as a Requirement for the Fundamentals of Applied Mathematics Concentration.
(iii) Add MATH 370 as an Elective for the Fundamentals of Applied Mathematics Concentration.
(iv) Add STAT 480 as an Elective for the Fundamentals of Mathematical Studies Concentration.

At Graduate Level (STAT 480G):
For the graduate level, STAT 480 will also be a requirement in the new Graduate Certificate in Statistical Data Science and the new Graduate Data Concentration.

Is this related to other courses at WKU?

Yes

Related courses

STAT 401 - Regression Analysis
STAT 402 - Experimental Design
CS 565 - Data Mining Techniques and Tools

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

Dr. Huanjing Wang – Department of Computer Science (8:30 am, 09/25/2024)
Dr. Ray Blankenship – Department of Analytics & Information Systems (9:30 am, 10/01/2024)
Dr. Alexander Lebedinsky – Department of Economics (11:00 am, 10/02/2024)

How many sections of this course per academic year will be offered?

1

How many students per section are expected to enroll in this proposed course?

8

How many students per academic year are expected to enroll?

8

How were these projections calculated? Explain any supporting evidence/data you have for arriving at these projections:

STAT 480 is replacing MATH 370. Over the last five years, the enrollment average in MATH 370 is 5 students, while the enrollment average is 7.5 students for the 12 times that we have offered MATH 370 and it ran. We anticipate a slight increase in enrollment in STAT 480 from the applied stats minors and others interested in a course in data science. While the more recent average of 5 is what we expect from math majors in the applied math concentration, we would expect enrollment numbers to closer to the historical average of MATH 370, which is why we would expect enrollment to be around 8 students.

How are these related?

STAT 480 is related to the following courses but differs in focus and scope:

STAT 401 (Regression Analysis): STAT 480 covers regression analysis as one of its core topics, but it extends beyond traditional regression methods by incorporating machine learning techniques, classification, and clustering within a data science context.

STAT 402 (Experimental Design): While STAT 402 focuses on designing and analyzing experiments, STAT 480 emphasizes exploratory data analysis and predictive modeling, making it more applicable to big data and machine learning applications.
CS 565 (Data Mining): STAT 480 overlaps with CS 565 in topics such as classification and clustering; however, STAT 480 provides a stronger emphasis on statistical reasoning, model interpretability, and theoretical foundations, while CS 565 is more focused on algorithmic and computational aspects.
STAT 480 serves as a bridge between statistical theory and practical data science applications, complementing these related courses rather than duplicating their content.

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	Apply a variety of statistical methods, including hypothesis testing, regression, and classification, to analyze data.
2	Implement machine learning algorithms such as decision trees, k-means clustering, and support vector machines for predictive modeling.
3	Interpret the results of statistical analyses and communicate findings clearly to both technical and non-technical audiences.
4	Use statistical softwares such as R, SAS, or Python, for data manipulation, statistical analysis, and machine learning applications.
5	Demonstrate an understanding of ethical considerations in data analysis, including data privacy and algorithmic fairness.

Content outline

#	Topic
1	Introduction to Statistical Methods in Data Science Overview of statistical concepts Introduction to R and Python for statistical computing
2	Regression Analysis Simple and multiple linear regression Logistic regression Assumptions and diagnostics

#	Topic
3	Classification Methods. Selected topics such as k-Nearest Neighbors (k-NN), Decision trees and random forests, Support vector machines (SVM), etc.
4	Clustering Techniques Selected topics such as k-means clustering, Hierarchical clustering, Principal component analysis (PCA)
5	Resampling Methods Selected topics such as Bootstrapping, Cross-validation
6	Other topics in Data Science

Student expectations and requirements

1. Class Participation: Active participation in class discussions and lab exercises is essential for understanding course materials.
2. Assignments: Weekly assignments involving data analysis, coding, and interpretation of statistical results using R and Python.
3. Projects: Students will complete a final project where they apply statistical methods to a real-world dataset, demonstrating their ability to synthesize and apply course concepts.
4. Exams: Midterm and final exams will assess students' understanding of statistical methods, data analysis, and their ability to implement algorithms.

Tentative texts and course materials

1. Textbooks:
An Introduction to Statistical Learning with Applications in R by Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani (required)
Python for Data Analysis by Wes McKinney (recommended)
2. Supplementary Materials:
Online resources and documentation for R and Python
Selected research papers and case studies from relevant fields
3. Software:
R and RStudio
Python and Jupyter Notebooks
SAS

Special equipment, materials, or library resources needed

1. Computer Labs: Access to a computer lab with R, Python, and relevant software installed.
2. Data Access: Students may require access to public datasets for assignments and projects, which will be provided through open data repositories such as Kaggle, UCI Machine Learning Repository, and government datasets.
3. Library Resources: Access to relevant journals and books on statistics, data science, and machine learning.

Additional information

We are proposing two separate courses: STAT 480 for undergraduate students and STAT 480G for graduate students. While these will be listed as distinct courses to align with university curriculum requirements, they will be taught as a single combined class, where both undergraduate and graduate students will participate in the same lectures and classroom activities.

This structure ensures consistency in content delivery while allowing us to differentiate learning expectations between the two levels. The graduate-level course (STAT 480G) will include additional requirements, such as more advanced assignments, projects, or assessments, to reflect the higher level of rigor expected at the graduate level.

Since each course requires a separate proposal submission, we will ensure that both proposals clearly state their interconnected nature while outlining the distinct expectations for undergraduate and graduate students.

Supporting documentation

Reviewer Comments

Key: 9833

Program Change Request

Date Submitted: 10/29/25 6:31 pm

Viewing: 417 : Mathematics, Minor (Minor for Employment in Industry and/or Graduate Studies in Mathematics)

Last approved: 11/01/21 9:35 am

Last edit: 10/29/25 6:31 pm

Changes proposed by: rch75904

Catalog Pages
Using this Program
Mathematics, Minor (Minor for Employment in Industry and/or Graduate Studies in Mathematics) (417)

Proposed Action

Active

Contact Person

In Workflow

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

Approval Path

1. 10/03/25 1:28 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 10/14/25 11:09 am Stuart Burris (stuart.burris): Rollback to Initiator
3. 10/30/25 1:47 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
4. 11/03/25 8:29 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. Nov 1, 2021 by Jessica Dorris (jessica.dorris)

Name	Email	Phone
Richard Schugart	richard.schugart@wku.edu	2707452947

Term of Implementation	2026-2027
Program Reference Number	417
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Minor
Department	Mathematics
College	Science and Engineering
Program Name (eg. Biology)	Mathematics, Minor (Minor for Employment in Industry and/or Graduate Studies in Mathematics)
CIP Code	
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

Catalog Content

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (24 hours)

MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 307	Introduction to Linear Algebra	3
Select at least nine hours from the following:		9
300-level MATH courses [1]		
400-level MATH courses [1]		
STAT 301	Introductory Probability and Applied Statistics [2]	

STAT 480	Course STAT 480 Not Found
Total Hours	24

1
Students may not count MATH 302, MATH 304, MATH 308, MATH 403, MATH 411, MATH 413, MATH 421, or MATH 490 toward the minor. MATH 398 may count toward the minor only if the student completes MATH 498.

2
Students may not count both MATH 382 and STAT 301 in the minor.

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

No

Does this program include courses from outside your department?

No

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

Learning Outcomes and Measurement Plan

	List all student learning outcomes of the program.	Measurement Plan
SLO 1	N/A	N/A

Library Resources

Attach library resources

Rationale for the program proposal?

We are replacing MATH 370 with STAT 480, Advanced Statistical Data Analytics. STAT 480 focuses on the statistical underpinnings of data science. We believe that data science should be an important part of the applied mathematics and statistics curricula. MATH 370 has significant overlap with MATH 307, MATH 450, and other applied mathematics courses.

Additional Attachments

Additional information or attachments

Reviewer Comments

Stuart Burris (stuart.burris) (10/14/25 11:09 am): Rollback: Program Revisions have to follow the Full Review pathway. Please reset the Review Type to Full and resubmit.

Key: 275

Program Change Request

Date Submitted: 10/03/25 12:43 pm

Viewing: 528 : Mathematics, Bachelor of Arts

Last approved: 04/03/25 9:28 am

Last edit: 10/03/25 12:43 pm

Changes proposed by: rch75904

Catalog Pages
Using this Program
Mathematics, Bachelor of Arts (528)

Proposed Action

In Workflow

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

Approval Path

1. 10/03/25 1:38 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 11/03/25 8:29 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. May 25, 2021 by Rheanna Plemons (rheanna.plemons)
2. Sep 27, 2021 by Jennifer Hammonds (jennifer.hammonds)
3. Mar 7, 2022 by Jessica Dorris (jessica.dorris)
4. Jul 20, 2022 by Ryan Wilson (ryan.wilson)
5. Apr 12, 2023 by Jennifer Hammonds (jennifer.hammonds)

6. Mar 11, 2024 by ptr05178
7. May 23, 2024 by Ngoc Nguyen (ngoc.nguyen)
8. Apr 3, 2025 by Ngoc Nguyen (ngoc.nguyen)

Active

Contact Person

Name	Email	Phone
Mikhail Khenner	Mikhail.Khenner@wku.edu	270-745-2797

Term of Implementation	2026-2027
Program Reference Number	528
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Arts
Department	Mathematics
College	Science and Engineering
Program Name (eg. Biology)	Mathematics, Bachelor of Arts

Will this program have concentrations?
Yes

Concentrations

Concentrations

Fundamental Analysis & Discrete (MAAD)
Fundamentals of Applied Mathematics (MAAM)
Fundamentals of Math Studies (MAMS)

CIP Code	27.0101 - Mathematics, 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)

This major is for students that intend to pursue a graduate degree in mathematics, and/or intend to pursue employment in business and industry. This major does not lead to teacher certification.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (51 hours)

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jun 30, 2025 9:25am

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.

A major in mathematics provides a Bachelor of Arts degree and requires either a minimum of 36-39 semester hours for a general major with a minor or second major or a minimum of 51 semester hours for an extended major. Note: All mathematics courses listed as prerequisites for other mathematics courses must have been completed with a grade of “C” or better.
Students in the extended major (528) are required to satisfy a computational requirement by completing two courses chosen from CS 180, CS 290 , STAT 330, MATH 371, PHYS 316, or PHYS 318. [If MATH 371 is selected to fulfill this requirement, it cannot also be used as an elective in the extended major (528).]
To prepare for graduate study in mathematics, the student must complete a minimum of 51 hours of mathematics with the following requirements:

Core Courses

MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 307	Introduction to Linear Algebra	3
MATH 310	Introduction to Discrete Mathematics	3
MATH 317	Introduction to Algebraic Systems	3
MATH 337	Elements of Real Analysis	3
MATH 431	Intermediate Analysis I	3
MATH 498	Senior Seminar	1-3
Total Hours		28-30

Select one of the following concentrations:

B1: Fundamentals of Analysis and Discrete Mathematics

MATH 417	Algebraic Systems	3
MATH 439	Topology I	3
MATH 450	Complex Variables	3
Select two of the following:		6
MATH 323	Geometry I	
MATH 415	Algebra and Number Theory	
MATH 473	Introduction to Graph Theory	
Select six elective hours from the following:		6
MATH 275	Introductory Topics in Mathematics (up to 3 hours)	
STAT 301	Introductory Probability and Applied Statistics	
MATH 305	Introduction to Mathematical Modeling	
MATH 323	Geometry I	
MATH 331	Differential Equations	
~~MATH 370~~	~~Applied Techniques in Mathematics~~	
STAT 480	Course STAT 480 Not Found	
MATH 382	Probability and Statistics I	
MATH 398	Seminar (up to 3 hours)	
MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis)	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	
MATH 409	History of Mathematics	
MATH 415	Algebra and Number Theory	
MATH 435	Partial Differential Equations	
MATH 470	Introduction to Operations Research	
MATH 473	Introduction to Graph Theory	
MATH 475	Selected Topics in Mathematics (up to 6 hours)	
MATH 482	Probability and Statistics II	
Total Hours		21

B2: Fundamentals of Applied Mathematics

MATH 331	Differential Equations [1]	3
~~MATH 370~~	~~Applied Techniques in Mathematics~~ [1]	~~3~~
MATH 382	Probability and Statistics I [1]	3
MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis) [1]	3

~~Select two of the following:~~ [1]		~~6~~
MATH 482	Probability and Statistics II	3
STAT 480	Course STAT 480 Not Found [1]	3
Select one of the following: [1]		3
MATH 305	Introduction to Mathematical Modeling	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	
MATH 435	Partial Differential Equations	
MATH 470	Introduction to Operations Research	
Select three credit hours of the following:		3
MATH 275	Introductory Topics in Mathematics	
~~STAT 301~~	~~Introductory Probability and Applied Statistics~~	
MATH 305	Introduction to Mathematical Modeling	
MATH 323	Geometry I	
MATH 398	Seminar	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	
MATH 409	History of Mathematics	
MATH 415	Algebra and Number Theory	
MATH 417	Algebraic Systems	
MATH 435	Partial Differential Equations	
MATH 439	Topology I	
MATH 450	Complex Variables	
MATH 470	Introduction to Operations Research	
MATH 473	Introduction to Graph Theory	
MATH 475	Selected Topics in Mathematics	
~~MATH 482~~	~~Probability and Statistics II~~	
Total Hours		21

B3: Fundamentals of Mathematical Studies

MATH 450	Complex Variables	3
Select two of the following:		6
MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis)	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	

MATH 409	History of Mathematics	
MATH 415	Algebra and Number Theory	
MATH 417	Algebraic Systems	
MATH 435	Partial Differential Equations	
MATH 439	Topology I	
MATH 470	Introduction to Operations Research	
MATH 473	Introduction to Graph Theory	
MATH 482	Probability and Statistics II	
Select twelve elective hours of the following:		12
MATH 275	Introductory Topics in Mathematics (up to 3 hours)	
STAT 301	Introductory Probability and Applied Statistics	
MATH 305	Introduction to Mathematical Modeling	
MATH 323	Geometry I	
MATH 331	Differential Equations	
~~MATH 370~~	~~Applied Techniques in Mathematics~~	
MATH 382	Probability and Statistics I	
MATH 398	Seminar (up to 3 hours)	
MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis)	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	
MATH 409	History of Mathematics	
MATH 415	Algebra and Number Theory	
MATH 435	Partial Differential Equations	
MATH 470	Introduction to Operations Research	
MATH 473	Introduction to Graph Theory	
MATH 475	Selected Topics in Mathematics (up to 6 hours)	
MATH 482	Probability and Statistics II	
STAT 480	Course STAT 480 Not Found	
Total Hours		21

[1] Students may take certain 500-level mathematics courses for undergraduate credit in place of courses listed in items B1i, B1ii, B2i, B2ii, B3i, or B3ii with the approval of the mathematics department chair. No minor or second major for the extended major is required.

The Department of Mathematics offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate Bachelor of Arts degree and a graduate Master of

Science degree in an accelerated timeframe. The MS in Mathematics prepares students to be competitive applicants for admission into a Ph.D. program and/or for positions where strong research skills are needed. Contact the graduate program coordinator for additional information, see https://catalog.wku.edu/graduate/science-engineering/mathematics/mathematics-ms/

This JUMP program allows students to start working toward their MS in Mathematics with a concentration in General Mathematics, Computational Mathematics, or Mathematical Economics (Ref: 085) while completing their Bachelor of Arts degree in Mathematics (Ref: 528 and 728) or a Bachelor of Science degree in Mathematical Economics (Ref: 731). Undergraduate students admitted into JUMP may take graduate courses that count toward both undergraduate and graduate degrees. Up to 12 credit hours can be double-counted toward both degrees, and up to 15 hours of graduate courses can be taken while a student is completing the undergraduate degree. The key benefit of the JUMP program is that it allows students to earn a bachelor's and a master's degree in an accelerated timeframe. For more information, see https://www.wku.edu/math/.

To be considered for admission to the JUMP program to earn a BA in Mathematics (or a BS in Mathematical Economics) and a MS in Mathematics in an accelerated timeframe, a student must meet the following requirements:

Be a Mathematics or a Mathematical Economics major (includes programs with reference numbers 528, 728, and 731);
Have completed at least 60 hours total, with at least 24 hours earned at WKU;
Have at least 15 or more credit hours remaining to complete the bachelor's degree;
Have completed or be enrolled in 15 credit hours in Mathematics;
Have a minimum cumulative undergraduate GPA of 3.25;
Have one of the following:

a. 3.25 GPA in the Mathematics or Mathematical Economics major AND a grade of B or higher in at least one of the courses: MATH 307, MATH 310, MATH 317, MATH 337, MATH 439;

b. 3.0 GPA in the Mathematics or Mathematical Economics major AND a grade of B or higher in at least two of the courses: MATH 307, MATH 310, MATH 317, MATH 337, MATH 439.

All applicants to Mathematics JUMP must submit to a Graduate Coordinator the following documents for consideration: ~~consideration: two letters of recommendation from a WKU Mathematics faculty members and a statement of purpose outlining academic goals and motivation for pursuing the JUMP program.~~ one letter of recommendation from a WKU Mathematics faculty members and a statement of purpose outlining academic goals and motivation for pursuing the JUMP program.

4-Year Plan

Fundamentals of Analysis & Discrete Mathematics Concentration

First Year			
Fall	Hours	Spring	Hours
MATH 136	4	MATH 137	4
CS 180	4	CS 290 or STAT 330	3-4
ENG 100	3	COMM 145	3
Colonnade - Natural & Physical Sciences w/ lab	3-5	HIST 101 or HIST 102	3
		Colonnade - Social & Behavioral Science	3
	14-16		16-17
Second Year			
Fall	Hours	Spring	Hours
MATH 307	3	MATH 237	4
MATH 310	3	Math upper-division Elective	3
ENG 200	3	Colonnade - Natural & Physical Sciences w/ no lab	3

First Year

Fall	Hours	Spring	Hours
Colonnade - Arts & Humanities	3	Colonnade - Writing in the Disciplines	3
World Language Requirement or General Elective	3	General Elective	3
	15		16

Third Year

Fall	Hours	Spring	Hours
MATH 317	3	MATH 337	3
Math upper-division Elective	3	MATH 417	3
Colonnade - Social & Cultural	3	Colonnade - Local to Global	3
Colonnade - Systems	3	General Elective	3
General Elective	3	General Elective	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
MATH 431	3	MATH 450	3
MATH 439	3	MATH 498	3
Math upper-division Elective	3	Math upper-division Elective	3
General Elective	3	General Elective	3
General Elective	2	General Elective	3
	14		15

Total Hours 120-123

Fundamentals of Applied Math Concentration

First Year

Fall	Hours	Spring	Hours
MATH 136	4	MATH 137	4
CS 180	4	CS 290 or STAT 330	3-4
ENG 100	3	COMM 145	3
Colonnade - Natural & Physical Sciences w/ lab	3-5	HIST 101 or HIST 102	3
		Colonnade - Social & Behavioral Science	3
	14-16		16-17

Second Year

Fall	Hours	Spring	Hours
MATH 307	3	MATH 237	4
MATH 310	3	MATH 331	3
ENG 200	3	Math upper-division Elective	3
Colonnade - Arts & Humanities	3	Colonnade - Natural & Physical Sciences w/ no lab	3
World Language Requirement or General Elective	3	Colonnade - Writing in the Disciplines	3
	15		16

Third Year

Fall	Hours	Spring	Hours
MATH 317	3	MATH 337	3
MATH 382	3	~~MATH 370~~	~~3~~

First Year

Fall	Hours	Spring	Hours
MATH 405	3	MATH 482	3
Colonnade - Social & Cultural	3	Colonnade - Local to Global	3
General Elective	3	Colonnade - Systems	3
		General Elective	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
MATH 431	3	MATH 498	3
Math upper-division Elective	3	~~Math upper-division Elective~~	~~3~~
General Elective	3	STAT 480	3
General Elective	3	General Elective	3
General Elective	2	General Elective	3
		General Elective	3
	14		15

Total Hours 120-123

Fundamentals of Math Studies Concentration

First Year

Fall	Hours	Spring	Hours
MATH 136	4	MATH 137	4
CS 180	4	CS 290 or STAT 330	3-4
ENG 100	3	COMM 145	3
Colonnade - Natural & Physical Sciences w/ lab	3-5	HIST 101 or HIST 102	3
		Colonnade - Social & Behavioral Science	3
	14-16		16-17

Second Year

Fall	Hours	Spring	Hours
MATH 307	3	MATH 237	4
MATH 310	3	Math upper-division Elective	3
ENG 200	3	Math upper-division Elective	3
Colonnade - Arts & Humanities	3	Colonnade - Natural & Physical Sciences w/ no lab	3
World Language Requirement or General Elective	3	Colonnade - Writing in the Disciplines	3
	15		16

Third Year

Fall	Hours	Spring	Hours
MATH 317	3	MATH 337	3
Math upper-division Elective	3	MATH 450	3
Colonnade - Local to Global	3	Math upper-division Elective	3
Colonnade - Social & Cultural	3	Colonnade - Systems	3
General Elective	3	General Elective	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours

First Year

Fall	Hours	Spring	Hours
MATH 431	3	MATH 498	3
Math upper-division Elective	3	Math upper-division Elective	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
General Elective	2	General Elective	3
	14		15

Total Hours 120-123

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	Be prepared for employment in government, industry, or academic settings	Rubric measurement of their senior project in MATH 498 which consists of a 12-to-20-page paper and a 25-minute presentation of their senior project. Students will complete an exit survey. Request alumni to complete a post-graduation survey.
SLO 2	Use technology and apply mathematics to solve problems effectively.	Rubric measurement of their senior project in MATH 498 which consists of a 12-to-20-page paper and a 25-minute presentation of their senior project. Students will complete an exit survey. Request alumni to complete a post-graduation survey.
SLO 3	Utilize critical thinking and communicate ideas effectively.	Rubric measurement of their senior project in MATH 498 which consists of a 12-to-20-page paper and a 25-minute presentation of their senior project.

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

Upload Assessment Plan

Delivery Mode

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

No

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

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

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

Are there any in-person on-campus requirements?

Does this program have experiential learning (practicum/internship/clinical)?

Does this program lead to professional licensure (excluding teaching certification)?

Library Resources

Attach library resources

Rationale for the program proposal?

We are replacing MATH 370 with STAT 480, Advanced Statistical Data Analytics. STAT 480 focuses on the statistical underpinnings of data science. We believe that data science should be an important part of the applied mathematics and statistics curricula. MATH 370 has significant overlap with MATH 307, MATH 450, and other applied mathematics courses. In the applied mathematics concentration, STAT 480 replaces MATH 370. However, STAT 480 has a co-requisite of MATH 482, which is why MATH 482 becomes a required class in the applied mathematics concentration. Also, MATH 405 and MATH 406 has undergone a content revision, which includes course name changes.

Additional Attachments

Additional information or attachments

No changes to Learning Outcomes and Measurement Plan are warranted due to proposed changes to the program, therefore new Assessment Plan is not uploaded.

Reviewer Comments

Key: 339

Program Change Request

Date Submitted: 10/03/25 12:44 pm

Viewing: 728 : Mathematics, Bachelor of Arts

Last approved: 06/12/25 3:37 pm

Last edit: 10/03/25 12:44 pm

Changes proposed by: rch75904

Catalog Pages
Using this Program
Mathematics, Bachelor of Arts (728)

Proposed Action

In Workflow

1. **MATH 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. 10/03/25 1:43 pm Kanita DuCloux (kanita.ducloux): Approved for MATH Approval
2. 11/03/25 8:29 am Stuart Burris (stuart.burris): Approved for SC Dean

History

1. May 25, 2021 by Rheanna Plemons (rheanna.plemons)
2. Sep 27, 2021 by Jennifer Hammonds (jennifer.hammonds)
3. Mar 7, 2022 by Jessica Dorris (jessica.dorris)
4. Jul 20, 2022 by Ryan Wilson (ryan.wilson)
5. Jun 8, 2023 by ptr05178

6. Apr 22, 2024 by ptr05178
7. Jun 12, 2025 by Ngoc Nguyen (ngoc.nguyen)

Active

Contact Person

Name	Email	Phone
Richard Schugart	richard.schugart@wku.edu	2707452947

Term of Implementation	2026-2027
Program Reference Number	728
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Arts
Department	Mathematics
College	Science and Engineering
Program Name (eg. Biology)	Mathematics, Bachelor of Arts

Will this program have concentrations?
Yes

Concentrations
Concentrations
Teacher Education (TCHR)
General (Non-Teacher Certifiable) (MATN)

CIP Code	27.0101 - Mathematics, General.
Will this program lead to teacher certification?	Yes

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 major is intended for students that are pursuing a basic math major for employment purposes and/or are interested in mathematics as part of a degree with two majors. Students pursuing teacher certification will also major in Science and Mathematics Education (774).

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (39 hours)

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jun 30, 2025 9:25am

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.

A major in mathematics provides a Bachelor of Arts degree and require a minimum of 39 semester hours for a general major with a minor or second major. Note: All mathematics courses listed as prerequisites for other mathematics courses must have been completed with a grade of “C” or better.
The general mathematics major (728) offers two options:
Teacher Certifiable Option (Secondary Mathematics Teacher Certification)
General (Non-teacher Certifiable) Option
Students in the general mathematics major (728) are required to satisfy a computational requirement as detailed within the options below.
Students must complete a minimum of 39 hours of mathematics with a minor or second major giving a total of at least 59 hours (53 unduplicated) with the following requirements.[2]

Core Mathematics Courses

All students in the general mathematics (728) major must complete the following core mathematics courses:

MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 307	Introduction to Linear Algebra	3
MATH 310	Introduction to Discrete Mathematics	3
MATH 317	Introduction to Algebraic Systems	3
MATH 337	Elements of Real Analysis	3
MATH 498	Senior Seminar	3
Total Hours		27

Teacher Certifiable Option (TCHR)

Students in the Teacher Certifiable Option must complete a second major in Science and Mathematics Education (774).
In addition to the Core Mathematics Courses, students must complete 12 additional hours as follows:

Required Courses: [3]		
MATH 304	Functions, Applications and Explorations	3
MATH 323	Geometry I	3
MATH 421	Problem Solving for Secondary Teachers	3
STAT 301	Introductory Probability and Applied Statistics	3
Total Hours		12

Students in the Teacher Certifiable Option must satisfy a computational requirement by completing either CS 170 or CS 180.

General (Non-Teacher Certifiable) Option (MATN)

Students in the Non-Teacher Certifiable Option must complete a minor or second major giving a total of at least 59 hours (53 unduplicated).
In addition to the Core Mathematics Courses, students must complete 12 additional hours as follows:

Select six (6) hours from the following: [1]		**6**
MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis)	
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)	
MATH 415	Algebra and Number Theory	
MATH 417	Algebraic Systems	
MATH 431	Intermediate Analysis I	
MATH 435	Partial Differential Equations	
MATH 439	Topology I	
MATH 450	Complex Variables	
MATH 470	Introduction to Operations Research	
MATH 473	Introduction to Graph Theory	
MATH 482	Probability and Statistics II	
Select six (6) hours from the following: [1]		**6**
MATH 305	Introduction to Mathematical Modeling	
MATH 323	Geometry I	
MATH 331	Differential Equations	
~~MATH 370~~	~~Applied Techniques in Mathematics~~	
MATH 382	Probability and Statistics I	
MATH 398	Seminar ((up to 3 hours))	

MATH 405	Numerical Analysis I (Course name changes to Numerical Analysis)
MATH 406	Numerical Analysis II (Course name changes to Numerical Linear Algebra with Applications in Data Science)
MATH 415	Algebra and Number Theory
MATH 417	Algebraic Systems
MATH 435	Partial Differential Equations
MATH 439	Topology I
MATH 450	Complex Variables
MATH 470	Introduction to Operations Research
MATH 475	Selected Topics in Mathematics ((up to 3 hours))
MATH 482	Probability and Statistics II
STAT 301	Introductory Probability and Applied Statistics
STAT 480	Course STAT 480 Not Found
Total Hours	12

Students in the General Option must satisfy a computational requirement by completing either CS 180, PHYS 316, PHYS 318 or STAT 330.

[1] Students may take certain 500-level mathematics courses for undergraduate credit with the approval of the Department Chair in place of courses listed in the elective sections of the General Option.

[2] Note: This major is not intended to prepare students adequately for graduate mathematics. Students intending to seek a graduate degree in mathematics should pursue major 528.

The Department of Mathematics offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate Bachelor of Arts degree and a graduate Master of Science degree in an accelerated timeframe. The MS in Mathematics prepares students to be competitive applicants for admission into a Ph.D. program and/or for positions where strong research skills are needed. Contact the graduate program coordinator for additional information, see https://catalog.wku.edu/graduate/science-engineering/mathematics/mathematics-ms/

This JUMP program allows students to start working toward their MS in Mathematics with a concentration in General Mathematics, Computational Mathematics, or Mathematical Economics (Ref: 085) while completing their Bachelor of Arts degree in Mathematics (Ref: 528 and 728) or a Bachelor of Science degree in Mathematical Economics (Ref: 731). Undergraduate students admitted into JUMP may take graduate courses that count toward both undergraduate and graduate degrees. Up to 12 credit hours can be double-counted toward both degrees, and up to 15 hours of graduate courses can be taken while a student is completing the undergraduate degree. The key benefit of the JUMP program is that it allows students to earn a bachelor's and a master's degree in an accelerated timeframe. For more information, see https://www.wku.edu/math/.

To be considered for admission to the JUMP program to earn a BA in Mathematics (or a BS in Mathematical Economics) and a MS in Mathematics in an accelerated timeframe, a student must meet the following requirements:

Be a Mathematics or a Mathematical Economics major (includes programs with reference numbers 528, 728, and 731);

Have completed at least 60 hours total, with at least 24 hours earned at WKU;

Have at least 15 or more credit hours remaining to complete the bachelor's degree;

Have completed or be enrolled in 15 credit hours in Mathematics;

Have a minimum cumulative undergraduate GPA of 3.25;

And have one of the following:
3.25 GPA in the Mathematics or Mathematical Economics major AND a grade of B or higher in at least one of the courses: MATH 307, MATH 310, MATH 317, MATH 337, MATH 439;
3.0 GPA in the Mathematics or Mathematical Economics major AND a grade of B or higher in at least two of the courses: MATH 307, MATH 310, MATH 317, MATH 337, MATH 439.
All applicants to Mathematics JUMP must submit to a Graduate Coordinator the following documents for consideration: one letter of recommendation from a WKU Mathematics faculty members and a statement of purpose outlining academic goals and motivation for pursuing the JUMP program.

4-Year Plan

Teacher Certifiable Option (TCHR)

First Year

Fall	Hours	Spring	Hours
MATH 136	4	MATH 137	4
SMED 101	3	SMED 102	3
CS 180 or CS 170	3-4	COMM 145	3
ENG 100	3	HIST 101 or HIST 102	3
Colonnade - Natural & Physical Sciences w/ lab	3-5	Colonnade - Social & Behavioral Science	3
	16-19		16

Second Year

Fall	Hours	Spring	Hours
MATH 307	3	MATH 310	3
MATH 237	4	MATH 304	3
SMED 310	3	SMED 320	3
ENG 200	3	Colonnade - Arts & Humanities	3
Colonnade - Natural & Physical Sciences w/ no lab	3	World Language Requirement or General Elective	3
	16		15

Third Year

Fall	Hours	Spring	Hours
MATH 317	3	MATH 337	3
MATH 323	3	MATH 421	3
SMED 340	3	STAT 301	3
Colonnade - Writing in the Disciplines	3	SMED 360	3
Colonnade - Local to Global	3	Colonnade - Systems	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
MATH 498	3	SMED 489	3
SMED 470	3	SEC 490	10
Colonnade - Social & Cultural	3		
General Elective	3		
General Elective	2-3		
	14-15		13

Total Hours 120-124

General (Non-Teacher Certifiable) Option (MATN)

First Year

Fall	Hours	Spring	Hours
MATH 136	4	MATH 137	4
Computational Requirement	3-4	General Elective	3
ENG 100	3	COMM 145	3
Colonnade - Natural & Physical Sciences w/ lab	3-5	HIST 101 or HIST 102	3
		Colonnade - Social & Behavioral Science	3
	13-16		16

Second Year

Fall	Hours	Spring	Hours
MATH 307	3	MATH 310	3
MATH 237	4	Minor Elective	3
Minor Course	3	Colonnade - Social & Cultural	3
ENG 200	3	Colonnade - Arts & Humanities	3
Colonnade - Natural & Physical Sciences w/ no lab	3	World Langauge Requirement or General Elective	3
	16		15

Third Year

Fall	Hours	Spring	Hours
MATH 317	3	MATH 337	3
Math upper-division Elective	3	Math upper-division Elective	3
Minor Course	3	Minor Course	3
Colonnade - Local to Global	3	Colonnade - Systems	3
Colonnade - Writing in the Disciplines	3	General Elective	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
Math upper-division Elective	3	MATH 498	3
Minor Course	3	Math upper-division Elective	3
Minor Course or General Elective	3	Minor Course	3
General Elective	3	General Elective	3
General Elective	3	General Elective	3
	15		15

Total Hours 120-123

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

No

Does this program include courses from outside your department?

No

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

Learning Outcomes
and Measurement

Plan

	List all student learning outcomes of the program.	Measurement Plan
SLO 1	Students will be prepared for employment in government, industry, or academic settings.	Employment prospects of seniors will be monitored in an exit survey.
SLO 2	Students will be able to use technology and apply mathematics to solve problems effectively.	Technology usage will be monitored in an exit survey.
SLO 3	Students will have well-developed abilities to utilize critical thinking and communicate ideas effectively.	Completion of a capstone project in MATH 498.

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

Upload Assessment Plan

Delivery Mode

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

No

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

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

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

Are there any in-person on-campus requirements?

Does this program have experiential learning (practicum/internship/clinical)?

Does this program lead to professional licensure (excluding teaching certification)?

Library Resources

Attach library resources

Rationale for the program proposal?

We are replacing MATH 370 with STAT 480, Advanced Statistical Data Analytics. STAT 480 focuses on the statistical underpinnings of data science. We believe that data science should be an important part of the applied mathematics and statistics curricula. MATH 370 has significant overlap with MATH 307, MATH 450, and other applied mathematics courses. Thus, we are also replacing MATH 370 with STAT 480 in the list of 728 electives. For JUMP applicants, adding a submission of one letter of recommendation from math faculty and the statement of purpose in order to improve the quality JUMP application review process and to comply with SACSCOC demands.

Additional Attachments

Additional information or attachments

Reviewer Comments

Key: 338

Program Change Request

Date Submitted: 10/31/25 12:15 pm

Viewing: **5012 : Data Science**

Last approved: 06/05/24 11:40 am

Last edit: 10/31/25 12:15 pm

Changes proposed by: alx50504

Catalog Pages
Using this Program
Data Science, Bachelor of Science (5012)

Proposed Action

Active

Contact Person

Name	Email	Phone
AlexLebedinsky	alex.lebedinsky@wku.edu	270-745-3150

Term of Implementation 2026-2027

In Workflow

1. **99BU Approval**
2. **BU Dean**
3. **BU Curriculum Committee**
4. Undergraduate Curriculum Committee
5. University Senate
6. Provost
7. Program Inventory

Approval Path

1. 10/31/25 12:18 pm Alexander Lebedinsky (alex.lebedinsky): Approved for 99BU Approval
2. 10/31/25 4:16 pm Evelyn Thrasher (evelyn.thrasher): Approved for BU Dean

History

1. Jun 5, 2024 by Alexander Lebedinsky (alex.lebedinsky)

Program Reference Number	5012
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Major
Degree Types	Bachelor of Science
Department	GFCB Interdisciplinary Programs
College	Business
Program Name (eg. Biology)	Data Science

Will this program have concentrations?

Yes ~~No~~

Concentrations

Applied Analytics
Applied Statistics
Computer Science
Economic Data Analytics
GIS
Health Informatics
Emergency Management Disaster Science

CIP Code	30.7001 - Data 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)

The Bachelor of Science in Data Science program equips students with a comprehensive understanding of the interdisciplinary field of data science. This program merges computer science, statistics, and domain-specific knowledge to harness the power of data for informed decision-making and innovative problem-solving. Through a combination of theoretical coursework, hands-on projects, and real-world applications, students will graduate with the skills necessary to excel in the rapidly evolving landscape of data-driven industries.

To earn the degree, the students have to complete a core set of classes and choose at least one concentration, which will also allow them to earn ~~certificate or~~ a certificate or a minor. The students will have an opportunity to personalize the degree by choosing one or multiple concentrations ~~certificates~~ that align with their interests.
Program Highlights:
Interdisciplinary Approach: Our program seamlessly integrates concepts from business data analytics, economics, computer science, mathematics, and domain-specific areas, providing students with a holistic perspective on data science.
Strong Foundation: Students will develop a solid foundation in programming, database management, statistical analysis, and machine learning techniques.
Data Visualization: Learn to create compelling visualizations that effectively communicate complex insights to both technical and non-technical audiences.
Industry-Standard Tools: Gain proficiency in popular tools and technologies used in the field, such as Python, R, SQL, and data manipulation libraries.
Capstone Project: Culminate your learning journey with a capstone project where you will tackle a real-world problem using data-driven approaches under the guidance of faculty mentors.
Career Preparation: Receive guidance on resume building, interview techniques, and job search strategies, and access our strong network of alumni working in various data science roles.
Career Opportunities: Graduates of the program will be well-prepared for a wide range of careers in the data science field, including but not limited to:
Data Analyst
Machine Learning Analyst
Business Intelligence Analyst
Quantitative Analyst
Predictive Modeler
Market Research Analyst
Data Scientist

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (51-61 hours)

Core Courses		**42**
BDAN 250	Introduction to Analytics	3
BDAN 310	Business Data Analytics	3
BDAN 350	Data Management	3
BDAN 420	Predictive Modeling	3
CS 180	Computer Science I	4
DATA 301	Big Data with its Applications	3

ECON 206	Statistics	3
ECON 465	Regression and Econometric Analysis	3
ECON 487	Data Methods in Economics	3
MATH 136	Calculus I	4
MATH 306	Applied and Computational Linear Algebra	3
STAT 330	Introduction to Statistical Software	3
DATA 399	Career Readiness in Data Science (Career Readiness)	1
DATA 499	Senior Assessment - Data Science (Senior Seminar)	3
Select at least ~~a block of electives from~~ one concentration from ~~of~~ the options below		
Applied Analytics Concentration		**9**
BDAN 305	Data Modeling and Analysis	3
Select two courses		6
BDAN 330	Structured Data Analysis	
BDAN 410	DSS Analysis and Design	
BDAN 430	Data Visualization	
Applied Statistics Concentration		**9**
STAT 402	Experimental Design	3
MATH 382	Probability and Statistics I	3
MATH 482	Probability and Statistics II	3
Computer Science Concentration		**16**
CS 290	Computer Science II	4
CS 351	Database Management Systems I	3
Three 300- or 400-level CS course not already in the program		9
Economic Data Analytics Concentration		**9**
ECON 307	Financial Data Modeling	3
ECON 480	Economic Forecasting	3
ECON 486	Applied Statistical Methods in Economics	3
Courses Leading to the GIS Certificate		**14**
GISC 316	Geographic Information Systems I	4
GISC 317	Geographic Information Systems II	4
GISC 417	GIS Analysis & Modeling	3
GISC 419	GIS Programming	3
Health Informatics Concentration		**18-19**

BDAN 305	Data Modeling and Analysis	3
BDAN 330	Structured Data Analysis	3
HIM 230	Computer Systems and Applications in Health Information Management	3
HIM 330	Electronic Health Record Systems	3
HIM 430	Health Data Management and Analytics	3
Choose one of the following		3-4
HIM 100	Health Data Content and Structure	
HCA 340	Health Care Organization and Management	
Emergency Management Disaster Science Concentration		**12**
EMDS 400	Emergency Management Policy and Practices	3
EMDS 401	Natural and Technological Disaster Risks	3
EMDS 402	Resiliency in Response to Terrorism and Violence	3
EMDS 403	Advanced Disaster Planning, Management, and Preparedness	3

4-Year Plan

First Year

Fall	Hours	Spring	Hours
BDAN 250	3	CS 180	4
COMM 145	3	ECON 206	3
ENG 100	3	ENG 200 (or another approved Colonnade Course)	3
MATH 136	4	HIST 101 or HIST 102	3
Colonnade Explorations - Arts And Humanities	3	Colonnade Explorations - Social and Behavioral	3
	16		16

Second Year

Fall	Hours	Spring	Hours
BDAN 310	3	BDAN 350	3
DATA 301	3	MATH 306	3
STAT 330	3	Colonnade Explorations - Natural and Physical Sciences	3
Colonnade Explorations - Natural and Physical Sciences	3	Data Science Elective	3
Elective/Second Major/Minor/Certificate course	3	Elective/Second Major/Minor/Certificate course	3
	15		15

Third Year

Fall	Hours	Spring	Hours
ENG 300	3	DATA 399	1
ECON 465	3	ECON 487	3
Data Science Elective	3	Data Science Elective	3
Elective/Second Major/Minor/Certificate course	3	Elective/Second Major/Minor/Certificate course	3
Elective/Second Major/Minor/Certificate course	3	Elective/Second Major/Minor/Certificate course	3
		Colonnade Connections	3

First Year

Fall	Hours	Spring	Hours
	15		16

Fourth Year

Fall	Hours	Spring	Hours
BDAN 420	3	DATA 499	3
Elective/Second Major/Minor/Certificate course	3	Colonnade Connections	3
Elective/Second Major/Minor/Certificate course	3	Elective/Second Major/Minor/Certificate course	3
Colonnade Connections	3	Elective/Second Major/Minor/Certificate course	3
Elective/Second Major/Minor/Certificate course	3		
	15		12

Total Hours 120

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

Yes

Interdisciplinary Departments

Secondary Departments
Coll BU:Interdiscpl/Undeclared (99BU)
Coll SC:Interdiscp/Undeclared (99SC)

Does this program include courses from outside your department?

Yes

Outside Courses Details

Who approved including these courses?	When were they approved?
Jan Hun-Shepherd, William Mkanta - courses for the Health Informatics Certificate, Leslie North - GIS and EMDS	09/26/2023, 10/17/2023

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	Data Manipulation and Analysis: Students will be able to effectively gather, clean, transform, and analyze diverse datasets. They will showcase the ability to employ programming languages and tools to manipulate data, extract meaningful insights, and identify trends and patterns.	DATA 499 - Senior Assessment capstone course will require students to conduct a research project where this SLO will be assessed.
SLO 2	Statistical Modeling Competence: Students will acquire a comprehensive understanding of	DATA 499 - Senior Assessment capstone course will require students to conduct a

	List all student learning outcomes of the program.	Measurement Plan
	statistical techniques. They will demonstrate the capacity to apply appropriate models, evaluate their performance, and make informed decisions about model selection and interpretation of results.	research project where this SLO will be assessed.
SLO 3	Data Visualization and Communication: Students will be adept at creating compelling visualizations that succinctly represent complex data-driven insights. They will effectively communicate their findings to technical and non-technical audiences, demonstrating the skill to convey the implications of their analysis.	DATA 499 - Senior Assessment capstone course will require students to conduct a research project where this SLO will be assessed.
SLO 4	Ethical and Responsible Data Practices: Students will comprehend the ethical considerations associated with data collection, storage, and usage. They will demonstrate an awareness of privacy concerns, bias mitigation, and the legal and ethical implications of their data science work.	DATA 399 - Career Readiness and DATA 301 - Big Data will cover the topics on ethical and responsible data practices. This SLO will be assessed in those two classes.
SLO 5	Interdisciplinary Problem Solving: Graduates will have the ability to apply data science techniques to tackle real-world problems using data-driven approaches. They will showcase their capacity to integrate computer science, statistics, and domain-specific knowledge to provide innovative solutions in diverse fields.	DATA 499 - Senior Assessment capstone course will require students to conduct a research project where this SLO will be assessed. Students will study a problem from one of the areas of expertise stemming from their certificate(s) and/or minor(s).

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

Upload Assessment Plan: Curriculm map - Data Science.xlsx; data science ASL template.docx

Please explain

This is the first such program to be offered at WKU. The closest related programs are a certificate in Business Data Analytics and a Bachelor of Science in Business Data Analytics. While the programs appear similar, there are fundamental differences between the two disciplines: Data analysts examine data to spot patterns, apply predictive analytic tools, and generate visual reports that aid businesses in formulating more strategic choices. In contrast, data scientists are responsible for designing and building new tools for modeling data, developing and adjusting algorithms and predictive models

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)

Location	Percentage
WKU Main Campus	100

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

Are there any in-person on-campus requirements?

Does this program have experiential learning (practicum/internship/clinical)?

Does this program lead to professional licensure (excluding teaching certification)?

Library Resources

Attach library resources: Data Science Library needs.docx

Rationale for the program proposal?

"Course blocks" were changed to "concentrations" to make the program requirements easier to understand. There were no substantive changes to the program, only a change in wording.

Additional
Attachments

Additional information or attachments

Reviewer Comments

Key: 376

Program Change Request

Date Submitted: 10/24/25 4:22 pm

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

Last approved: 06/17/25 7:59 am

Last edit: 10/24/25 4:22 pm

Changes proposed by: and30774

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

Proposed Action

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. 10/27/25 4:32 pm Katrina Burch (katrina.burch): Approved for PSYS Approval
2. 11/03/25 8:29 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
5. May 25, 2023 by Andrew Mienaltowski (andrew.mienaltowski

6. Feb 20, 2024 by Andrew Mienaltowski (andrew.mienaltowski
7. Jun 17, 2024 by Ryan Wilson (ryan.wilson)
8. Jun 17, 2024 by Ryan Wilson (ryan.wilson)
9. Jun 12, 2025 by Andrew Mienaltowski (andrew.mienaltowski
10. Jun 17, 2025 by Ryan Wilson (ryan.wilson)

Active

Contact Person

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

Term of Implementation	2026-2027
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 & Social Psychological Science (PASP)
Biobehavioral Psychology (PBBP)
Clinical Psychological Science (PCPS)
Cognitive Psychology (PCGP)

Developmental Science (PDVS)
Quantitative Psychology (PSQP) (Available to 747E Majors only)
General (PGEN) (Available to 747 Majors only)

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, 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 (37-52 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 26 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 Capstone Experience.
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.
To complete the Concentration requirement, students in the non-extended option will (a) complete 12 credit hours from one thematic concentration (applied & social psychological science, biobehavioral psychology, clinical psychological science, cognitive psychology, or developmental science) or (b), if in the general concentration, complete 12 credit hours of upper-level PSYS or PSY courses found in any of the thematic concentrations to study themes in psychological science more broadly. Students choosing the extended option (a) must choose a thematic concentration (applied & social psychological science, biobehavioral psychology clinical psychological science, cognitive psychology, or developmental science) but cannot choose the general concentration, and (b) will complete 24 credit hours (12 credit hours from the thematic concentration and 12 unduplicated credit hours of upper-level PSYS or PSY courses found in any of the other thematic concentrations).

Students completing the extended major can select electives from the following: PSYS 300, PSYS 321, PSYS 331, PSYS 333, PSYS 346, PSYS 350, PSYS 352, PSYS 353, PSYS 357, PSYS 360, PSYS 363, PSYS 370, PSYS 413, PSYS 415, PSYS 423, PSYS 424, PSYS 425, PSYS 431, PSYS 433, PSYS 440, PSYS 442, PSYS 444, PSYS 450, PSYS 451, PSYS 453, PSYS 462, PSYS 463, PSYS 465, PSYS 473, PSYS 481, PSYS 482, PSYS 490, PSYS 499, PSY 355, PSY 412, PSY 470

Students who are in the quantitative concentration of the extended version of the major will complete 24-25 hours of concentration courses in addition to the 26-28 hours in the major's core.

Students must earn a C or better in PSYS 313 or PSY 313. Students must complete one of these math courses: ~~either~~ MATH 116, MATH 117, MATH 136, or MATH 183. ~~MATH 116 and MATH 117 , orMATH 118 or higher is required; MATH 183 isrecommended.~~Students who select the extended option with the quantitative psychology concentration must 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, may count no more than 6 credits of PSYS 490 towards the major, with no more than 3 credits counting toward a single concentration's requirements. PSYS 300 is recommended to meet the Colonnade: Writing in the Disciplines requirement and can be used to satisfy major requirements in the 12 concentration hours of the general concentration, in the 9 elective hours of the quantitative concentration, or in the 12 upper-level elective hours majors complete in the extended version of the major.

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.

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jun 30, 2025 9:25am

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.

Applied & Social Psychological Science Concentration

This thematic concentration emphasizes applying psychological science to investigate how social situations affect behavior and to explore the role of social factors in real-world problems.

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
PSYS 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	

PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
Required Course:		
PSYS 413	Psychological Measurement	3
Select 9 hours from the following:		9
PSYS 346	The Psychology of Facing Death and Dying	
PSYS 352	Health Psychology: The Mind-Body Connection	
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 357	Psychology and Film	
PSYS 370	Industrial / Organizational Psychology	
PSYS 415	Programming for Social Sciences	
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 473	Training in Business and Industry	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in 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: (may use PSYS 413 from above concentration courses to satisfy requirement)		0-3

PSYS 322	Laboratory in Developmental Psychology	
PSYS 332	Laboratory in Human and Animal Learning	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		37-40

Biobehavioral Psychology Concentration

This thematic 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 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
PSYS 363	Sensory and Perceptual Systems	3
Select 9 hours from the following:		9
PSYS 333	Cognitive Psychology	
PSYS 352	Health Psychology: The Mind-Body Connection	

PSYS 431	Psychology of Language	
PSYS 444	Psychology of Substance Use Disorders	
PSYS 462	Fundamentals of Cognitive Neuroscience	
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	
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 thematic 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 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	
PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	

PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
Select 12 hours from the following:		12
PSYS 346	The Psychology of Facing Death and Dying	
PSYS 350	Social Psychology	
PSYS 352	Health Psychology: The Mind-Body Connection	
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 357	Psychology and Film	
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	Fundamentals of Cognitive Neuroscience	
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		
Select one course from the following: (may use PSYS 413 from above concentration courses to satisfy requirement)		0-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332	Laboratory in Human and Animal Learning	
PSYS 334	Laboratory in Cognition	

PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		37-40

Cognitive Psychology Concentration

This thematic 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	
PSYS 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	
PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
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	Fundamentals of Cognitive Neuroscience	
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	
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 thematic concentration addresses the physical, emotional, intellectual, social, perceptual, and personality growth of humans throughout the lifespan.

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	
PSYS 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	
PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3

Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
Select 12 hours from the following:		12
PSYS 220	Introduction to Lifespan Developmental Psychology	
PSYS 321	Child Developmental Psychology	
PSYS 346	The Psychology of Facing Death and Dying	
PSYS 352	Health Psychology: The Mind-Body Connection	
PSYS 357	Psychology and Film	
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	
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

General Concentration

This concentration offers students the opportunity to more broadly study themes in psychological science in general.

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	
PSYS 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	
PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
Select 12 hours of electives from upper-level PSYS courses not used to satisfy Core requirements or from upper-level PSYS or PSY courses in the thematic concentrations:		12
PSYS 300	Writing in the Psychological Sciences	
PSYS 321	Child Developmental Psychology	
PSYS 331	Principles of Human and Animal Learning	
PSYS 333	Cognitive Psychology	
PSYS 346	The Psychology of Facing Death and Dying	
PSYS 350	Social Psychology	
PSYS 352	Health Psychology: The Mind-Body Connection	
PSYS 353	Psychology of Prejudice and Stereotyping	
PSYS 357	Psychology and Film	
PSYS 360	Behavioral Neuroscience	
PSYS 363	Sensory and Perceptual Systems	
PSYS 370	Industrial / Organizational Psychology	

PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
PSYS 423	Psychology of Adult Life and Aging	
PSYS 424	Topics in Developmental Psychology	
PSYS 425	Developmental Psychopathology	
PSYS 431	Psychology of Language	
PSYS 433	Judgment and Decision Making	
PSYS 440	Abnormal Psychology	
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	Fundamentals of Cognitive Neuroscience	
PSYS 463	Evolutionary Psychology	
PSYS 465	Psychopharmacology	
PSYS 473	Training in Business and Industry	
PSYS 481	History of Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
PSY 355	Issues in Cross-Cultural Psychology	
PSY 412	Psychology of Motivation and Emotion	
PSY 470	Psychology and Law	
Laboratory Experience		
Select one of the following courses:		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332	Laboratory in Human and Animal Learning	
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

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	
PSYS 360	Behavioral Neuroscience	3
or PSYS 363	Sensory and Perceptual Systems	
PSYS 210 & PSYS 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or PSY 210 & PSY 211	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Concentration Courses		
CS 146	Introduction to Programming	3
or CS 170	Problem Solving and Programming	
or 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. Can include PSYS 300.		9
Laboratory Experience		
Select one course from the following: (may use PSYS 413 from above concentration courses to satisfy requirement)		0-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332	Laboratory in Human and Animal Learning	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		49-52

Joint Undergraduate Master's Program (JUMP)

The Department of Psychological Sciences offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate and graduate degree in an accelerated timeframe. Contact the graduate program coordinator for additional information.

This JUMP program allows students to start working toward their MS in Psychology with a concentration in Psychological Science (Ref: 0469) while completing their bachelor's of science degree in Psychological Science (Ref: 747 and 747E). Undergraduate students admitted into JUMP may take graduate courses that count toward both undergraduate and graduate degrees. Up to 12 credit hours can be double-counted toward both degrees, and up to 15 hours of graduate courses can be taken while a student is completing the undergraduate degree. The key benefit of the JUMP program is that it allows students to earn a bachelor's and a master's degree in an accelerated timeframe. For more information, see https://www.wku.edu/psychological-sciences/.

To be considered for admission to the JUMP program to earn a BS in Psychological Science and a MS in Psychology in an accelerated timeframe a, a student must meet the following requirements:

Be a Psychological Science major (includes programs with reference numbers 747 and 747E)

Have completed at least 60 hours total, with at least 24 hours earned at WKU;

Have at least 15 or more credit hours remaining to complete the bachelor's degree;

Have a minimum 3.25 overall GPA and 3.25 GPA in the Psychological Science major;

Have completed or be enrolled in 16 credit hours in Psychological Science, including PSYS 100 (or PSYS 160), and PSYS 210, and PSYS 211, and PSYS 313 or the equivalent of these classes;

Have completed at least one semester long research experience with a faculty member in the Department of Psychological Sciences.

Admissions are competitive and dependent upon graduate program capacity. The MS in Psychology with a concentration in Psychological Science uses a research mentorship approach to prepare students to be competitive applicants for admission into a Ph.D. program and/or for positions where strong research and methodological skills are needed.

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
		Elective or Colonnade Course	3
	15		16

Second Year

Fall	Hours	Spring	Hours

First 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 and Spring 2023
Chemistry	Spring 2023
Physics and Astronomy	Spring 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	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	Reflect on application of experience in major to future career or educational training	Students complete open-ended instrument in which they are asked to reflect on connections between training in major and future directions in the profession. Scored with rubric across four levels (unsatisfactory to exceptional)

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

Upload Assessment Plan

Delivery Mode

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

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

Are there any in-person on-campus requirements?

Does this program have experiential learning (practicum/internship/clinical)?

Does this program lead to professional licensure (excluding teaching certification)?

Library Resources

Attach library resources: CourseAlignment.docx

Rationale for the program proposal?

Proposed revision to program math requirement places the psychological science major in better alignment with BS psychology programs in the state of Kentucky, may reduce barriers to graduation for some students, and maintains quantitiative skill rigor in program by requiring majors attain a reasonable level of statistics competency in our core program statistics course.

Additional Attachments	psychological_sciences_neuroscience_747.docx Revised SLO5.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