

MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Melanie Autin
Dr. Royhan Gani
Dr. Scott Grubbs
Dr. Ting-Hui Lee

Dr. Andy Mienaltowski
Dr. Les Pesterfield
Dr. Todd Willian
Dr. Bangbo Yan
Dr. Rong Yang

FROM: Dr. Stuart Burris, Chair

SUBJECT: Agenda for Thursday, November 7, 2024

A. OLD BUSINESS:

I. Consideration of the minutes of the October 2024 meeting.

B. NEW BUSINESS:

Type of item	Description of Item & Contact Information
Informational	<u>The following items were sent through the expedited process:</u> AS 251, AS 351, BIOL 114 (internal pre-req change)
Action	Proposal to Revise a Course BIOL 328: Immunology Contact: Simran Banga, Simran.banga@wku.edu , x4748
Action	Proposal to Revise a Course BIOL 331: Animal Physiology Laboratory Contact: Scott Grubbs, scott.grubbs@wku.edu , x3696
Action	Proposal to Revise a Course BIOL 336: Food Microbiology Contact: Simran Banga, Simran.banga@wku.edu , x4748
Action	Proposal to Create a New Course BIOL 338: Immunology Lab Contact: Simran Banga, Simran.banga@wku.edu , x4748
Action	Proposal to Revise a Course BIOL 382: Introductory Biostatistics Contact: Doug McElroy, doug.mcelroy@wku.edu , x3696
Action	Proposal to Revise a Course BIOL 472: Applied and Environmental Microbiology Contact: Scott Grubbs, scott.grubbs@wku.edu , x3696

Action	<p>Proposal to Revise a Program Ref. 525: Biology, Bachelor of Science Contact: Simran Banga, Simran.banga@wku.edu, x4748</p>
Action	<p>Proposal to Revise a Program Ref. 617: Biology, Bachelor of Science Contact: Simran Banga, Simran.banga@wku.edu, x4748</p>
Action	<p>Proposal to Revise a Course PSYS 357: Psychology and Film Contact: Diane Lickenbrock, diane.lickenbrock@wku.edu, x39185</p>
Action	<p>Proposal to Revise a Program Ref. 434: Neuroscience, Minor Contact: Andrew Mienaltowski, Andrew.mienaltowski@wku.edu, 270-681-0270</p>
Action	<p>Proposal to Revise a Program Ref. 747E/747: Psychological Science, Bachelor of Science Contact: Andrew Mienaltowski, Andrew.mienaltowski@wku.edu, 270-681-0270</p>
Action	<p>Proposal to Create a New Program User Experience, Bachelor of Science Contact: Michael Galloway, Jeffrey.galloway@wku.edu, x 6568 Mark Simpson, mark.simpson@wku.edu, x6568 Leah Moss, leah.moss@wku.edu, x6568</p>

C. OTHER BUSINESS

Members Present: Dr. Melanie Autin, Dr. Andy Mienaltowski, Dr. Royhan Gani, Dr. Les Pesterfield, Dr. Scott Grubbs, Dr. Todd Willian, Dr. Ting-Hui Lee, Dr. Bangbo Yan, Dr. Rong Yang

Guests: Dr. Mark Cambron, Dr. Simran Banga, Dr. Kevin Schmaltz, Dr. David Brown

FROM: Dr. Stuart Burris, Chair

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

OLD BUSINESS:

Minutes from the April 2024 meeting were approved as posted.

NEW BUSINESS:

Action Agenda:

PSYS 346: Autin/Grubbs; approved with a friendly amendment

PSYS 352: Autin/Lee; approved

Ref. 5013: William/Grubbs; approved with a friendly amendment

ME 347: Autin/Gani; approved

Ref. 543p, 543; Grubbs/Lee; approved

Other Business:

Need to identify an Ogden Senate Rep

Dr. Ting-Hui Lee volunteered to serve as an alternate for UCC

Course Change Request

Date Submitted: 10/22/24 4:09 pm

Viewing: **BIOL 328 : Immunology**

Last approved: 01/31/24 3:16 am

Last revision: 10/23/24 4:39 pm

Changes proposed by: smr85629

Catalog Pages
referencing this
course

[Biology_\(BIOL\)](#)

[Department of Biology](#)

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

Proposed Action

Approval Path

- 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL
Approval
- 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC
Dean

History

- Jan 31, 2024 by
Scott Grubbs
(scott.grubbs)

Active

Contact(s)

Name	E-mail	Phone
Simran Banga Scott Grubbs	simran.banga@wku.edu scott.grubbs@wku.edu	270-745-4748 270-745-3696

Review Type

Full Review ~~Expedited~~

Term for implementation Summer 2025

Academic Level Undergraduate

Course prefix (subject area) BIOL - Biology Course number 328

Department Biology

College Science and Engineering

Course title Immunology

Abbreviated course title IMMUNOLOGY

Course description

An introductory study of the vertebrate immune system and its relationship to organismic integrity.

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

CIP Code 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	BIOL 319	<u>C</u> D	UG		

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
And		BIOL 322	<u>C</u> D	UG)	
Or	(	BIOL 327	<u>C</u> D	UG		
And		BIOL 337	<u>C</u> 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

Currently, this course is a combination lecture plus lab course. The reason for change is to separate lecture and lab into two different courses. This revision is proposed with a concurrent proposal for creating a new course, BIOL 338 (Immunology Lab), that will comprise the embedded lab component of the current BIOL 328 Immunology course.

This separation is proposed for the following main reasons. First, a large number of pre-medical professionals student need an Immunology course. However, not all students need a laboratory experience. Additionally, lab limits the maximum capacity of the course. By splitting these two components, we can increase the enrollment capacity for the lecture which will enable more pre-medical professionals students to benefit from this course offering. Second, the splitting of lab and lecture will provide scheduling flexibility to students. Now that lab is no longer required, this frees up an afternoon to enroll in a different lab course. Third, if a student wants to retake Immunology to improve their grade, they need not take both lecture and lab but rather focus on the component that needs improvement. ~~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 ~~No~~

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Describe <u>the immune system</u> and <u>how it works</u> . differentiate between the components of both the innate and adaptive immune responses of humans and other mammals.
2	<u>Describe and differentiate between the components</u> Recognize different types of <u>both the innate and adaptive immune responses of humans and other mammals</u> . immunity and its significance.
3	<u>Recognize different types of immunity and its significance</u> . Predict the impact of genetic deficiencies, disorders, and failures related to immunology.
4	<u>Predict</u> Explain the <u>impact of genetic deficiencies, disorders, cellular</u> and <u>failures related</u> molecular mechanisms that allow animals to <u>immunology</u> . recognize and respond to non-self.
5	<u>Explain</u> Understand the <u>cellular and molecular mechanisms</u> sequence of events that <u>allow animals</u> lead to <u>recognize and respond to diseases</u> . a protective immune response.
6	<u>Explain the sequence of events that lead to a protective immune response</u> . Comprehend the process of development of adaptive immune response.
7	<u>Discuss the process of development of adaptive immune response</u> .

#	Student Learning Outcomes
	Appreciate the impact of vaccines, and how they confer protection.
8	<u>Describe the impact of vaccines, and how they confer protection.</u> Analyze, discuss, and solve case studies relating to immunological diseases and disorders.
9	<u>Analyze, discuss, and solve case studies relating to immunological diseases and disorders.</u> Appreciate the value of scientific research in the field of immunology.
10	<u>Explain the value of</u> Analyze, critically evaluate, and discuss relevant primary research articles from peer reviewed scientific <u>research journals</u> in <u>the</u> the field <u>of immunology.</u> of immunology.
11	<u>Analyze, critically evaluate, and discuss relevant primary research articles from peer-reviewed scientific journals in the field of immunology.</u> Demonstrate the use of common laboratory equipment successfully.
12	Successfully perform common immunological techniques, appreciate the limitations of the techniques, explain the practical application of the techniques, and design immunological experiments utilizing these techniques.
13	Record experimental data, analyze data, interpret data, and draw appropriate conclusions based upon data.
<u>12</u>	<u>Analyze, discuss, and solve case studies relating to immunological diseases and disorders.</u>

Content outline

#	Topic
1	Elements of the immune <u>system</u> system Innate immunity Induced innate response Antibodies: structure and function Antigen recognition B-lymphocytes T-lymphocytes Cell-mediated immunity Humoral immunity Mucosal immunity Vaccines Failures of body defenses Allergic responses Transplant immune response Autoimmune disorders
<u>2</u>	<u>Types of Immunity and Immune responses</u>

#	Topic
<u>3</u>	<u>Innate and Adaptive Immunity</u>
<u>4</u>	<u>Constitutive and Induced innate immune responses</u>
<u>5</u>	<u>Antibodies: structure and function</u>
<u>6</u>	<u>Antigen recognition and associated mechanisms</u>
<u>7</u>	<u>B and T cells: Development, functions and abnormalities</u>
<u>8</u>	<u>Cellular vs Humoral Immunity and their role in immunological defense</u>
<u>9</u>	<u>Mucosal immunity and inflammation</u>
<u>10</u>	<u>Vaccines and immunotherapy</u>
<u>11</u>	<u>Failures of body defenses: Allergic responses and Autoimmune disorders</u>

Student expectations and requirements

The students will be expected to complete assigned reading and assignments related to immunology concepts discussed in class, participate in discussions on case studies and present immunology research articles. The course assessment will be based on student participation, in-class assignments, quizzes, exams and presentations.

Tentative texts and course materials

The Immune System, 5th edition by Peter Parham Published by Garland Science
Case studies in immunology and scientific research articles

Special equipment, materials, or library resources needed

None required

Additional information

Supporting documentation

Reviewer Comments

Course Change Request

Date Submitted: 09/21/24 1:32 pm

Viewing: **BIOL 331 : Animal Physiology**

Laboratory

Last approved: 02/07/24 3:16 am

Last revision: 09/21/24 1:32 pm

Changes proposed by: sct16030

Catalog Pages
referencing this
course

[Biology_\(BIOL\)](#)

[Department of Biology](#)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Scott Grubbs	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. 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. Feb 7, 2024 by Scott Grubbs
(scott.grubbs)

Term for implementation Summer 2025

Academic Level Undergraduate

Course prefix (subject area) BIOL - Biology Course number 331

Department Biology

College Science and Engineering

Course title
Animal Physiology Laboratory

Abbreviated course title LAB ANIMAL PHYSIOLOGY

Course description

A laboratory course that emphasizes experimental design and hypothesis testing, along with classic and modern techniques used in animal physiology.

Credit hours 1 ~~4.5~~

Repeatable

Yes

Number of repeats 2

For maximum credits 1 ~~4.5~~

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 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		BIOL 330	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

The 1.5 credit hour amount for BIOL 331 has caused problems for several years for students who are 0.5 credits short of meeting a credit hour requirement, including the minimum amount required for the 36- or 48-hour Biology major. Reducing from 1.5 to 1 hour will eliminate confusion and reduce the administrative toll to both faculty teaching this course and Biology staff (i.e., emails). The content and rigor of BIOL 331 will remain constant.

~~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	Demonstrate the ability to apply scientific methodology and laboratory skills to address physiological questions
2	Critically read primary scientific literature and synthesize information to support a thesis
3	Gain proficiency in physiology laboratory skills
4	Compare and contrast physiological systems across species

Content outline

#	Topic
1	Introduction to coding in R
2	Nerve conduction lab
3	Muscle fiber physiology and analysis
4	Frog heart labs, experimental design, and analysis

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: 10/28/24 12:28 pm

Viewing: **BIOL 336 : Food Microbiology**

Last approved: 09/17/21 9:24 am

Last revision: 10/28/24 12:28 pm

Changes proposed by: dgl13110

Programs
referencing this
course

[525: Biology, Bachelor of Science](#)

Proposed Action

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. 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 10/23/24 4:41 pm
Stuart Burris
(stuart.burris):
Rollback to Initiator
3. 10/28/24 12:29 pm
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
4. 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. Sep 17, 2021 by
Scott Grubbs
(scott.grubbs)

~~Suspended~~

Active

Contact(s)

Name	E-mail	Phone
Scott Grubbs <u>Simran Banga</u>	scott.grubbs@wku.edu <u>simran.banga@wku.edu</u>	270-202-6984 <u>270-745-4748</u>

Review Type Full Review ~~Expedited~~

Term for implementation Summer 2025

Academic Level Undergraduate

Course prefix (subject area) BIOL - Biology Course number 336

Department Biology

College Science and Engineering

Course title
Food Microbiology

Abbreviated course title FOOD MICROBIOLOGY

Course description

A comprehensive understanding of food microbiology, including foodborne pathogenic bacteria, beneficial bacteria, microbial impact on food processing, control of microorganisms in food, and food regulations. This course may include off-campus travels to food processing companies or government laboratories.

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 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	BIOL 226 207	D	UG		
And		BIOL 227 208	D	UG)	
Or	{	BIOL-226	D	UG		
And		BIOL-227	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

There are two proposed changes. BIOL 336 is being resurrected from suspended status to be included as a core course in the proposed new Applied Microbiology (AM) concentration in reference number 525. This course will provide education and training in the field of microbiology and its workforce applications together with other relevant microbiology courses listed in the forthcoming AM Concentration. In addition, we are restricting the prerequisites of the course to only majors-level microbiology to align with nearly every other majors-level 200-level course and higher in Biology. The only exceptions are our Connections 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.

There will be no impact on any other courses or programs.

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	<u>Identify and classify microorganisms significant to food production and spoilage.</u>
<u>2</u>	<u>Identify intrinsic and extrinsic factors that influence microbial growth dynamics in various food environments.</u>
<u>3</u>	<u>Evaluate control methods for food preservation and safety.</u>
<u>4</u>	<u>Analyze the impact of microorganisms on food spoilage and safety.</u>
<u>5</u>	<u>Describe food safety problems and the impact of food intoxication and food borne outbreaks</u>
<u>6</u>	<u>Practice laboratory techniques for isolating and identifying foodborne pathogens.</u>

Content outline

#	Topic
1	<u>Overview of food microbiology</u>
<u>2</u>	<u>Microbial diversity in food systems and their identification</u>
<u>3</u>	<u>Factors affecting microbial growth in different foods and associated metabolic pathways in food spoilage</u>
<u>4</u>	<u>Detection of food spoilage, mechanisms of spoilage and control strategies</u>
<u>5</u>	<u>Major foodborne pathogens and their epidemiology and Case studies of foodborne outbreaks</u>
<u>6</u>	<u>Role of microorganisms in fermentation; health benefits and safety of fermented foods</u>
<u>7</u>	<u>Food preservation, Physical & chemical preservation methods, Emerging technologies in food preservation</u>
<u>8</u>	<u>Overview of food safety regulations (e.g., HACCP, FDA) and safety standards</u>

#	Topic
<u>9</u>	<u>Importance of microbiological testing and laboratory techniques in food microbiology</u>
<u>10</u>	<u>Microbial risk assessment and its significance</u>
<u>11</u>	<u>Current trends and innovations in food microbiology and safety</u>

Student expectations and requirements

The students will be expected to complete assigned reading and assignments related to food microbiology topics discussed in class, participate in food outbreak case studies and present scientific research articles. The course assessment will be based on student participation, in-class assignments, quizzes, exams and presentations.

Tentative texts and course materials

Food Microbiology: Fundamentals and Frontiers, 5th Edition by Michael P. Doyle and Francisco Diez-Gonzalez
Food outbreak Case studies and scientific research articles

Special equipment, materials, or library resources needed

None needed

Additional information

Supporting documentation

Reviewer Comments

Stuart Burris (stuart.burris) (10/23/24 4:41 pm): Rollback: Rolled back to consider change in pre-reqs.

Course Change Request

New Course Proposal

Date Submitted: 10/22/24 4:06 pm

Viewing: **BIOL 338 : Immunology Lab**

Last revision: 10/23/24 4:42 pm

Changes proposed by: smr85629

Programs
referencing this
course

[525: Biology, Bachelor of Science](#)

[617: Biology, Bachelor of Science](#)

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

Proposed Action

Approval Path

1. 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 11/01/24 9:59 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Simran Banga	simran.banga@wku.edu	270-745-4748

Term for implementation Summer 2025

Academic Level Undergraduate

Course prefix (subject area) BIOL - Biology Course number 338

Department Biology

College Science and Engineering

Course title

Immunology Lab

Abbreviated course title IMMUNOLOGY LAB

Course description

A laboratory course in immunology that emphasizes on learning immunological techniques and their applications through experimental design and hypothesis testing, including classic and modern methods used in hematology and serology.

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 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		BIOL 328		UG		Yes

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for developing the proposed course

The proposed new course is an embedded lab component of the current BIOL 328 immunology course. Thus, it is not a new course but a segregation of lecture and lab of an existing course. This new course is concurrently proposed with a revision of BIOL 328 to separate the embedded lab.

The reason for change is to separate lecture and lab into two different courses. This separation is proposed for for a few reasons. First, a large number of pre-medical professionals need immunology course. However, not all students need a laboratory experience. Additionally, lab limits the maximum capacity of the course. By splitting these two components, we can increase the enrollment capacity for the lecture course which will enable more pre-medical professionals to benefit from this course offering. Second, the splitting of lab and lecture will provide scheduling feasibility to the students. Third, if a student wants to retake the immunology course to improve their grade, they need not take both lecture and lab but rather focus on the component that needs improvement.

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

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?

18

How many students per academic year

are expected to enroll?

36

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

Enrollments are based on the lab space capacity.

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 classic and advanced immunological techniques including hematology, ELISA, immunofluorescence, flow cytometry, and immunohistochemistry.
2	Practice laboratory safety guidelines while working with biological samples and hazardous materials and adhere to laboratory safety protocols.
3	Successfully perform common immunological techniques, appreciate the limitations of the techniques, explain the practical application of the techniques, and design immunological experiments utilizing these techniques.
4	Record experimental data, analyze data, interpret data, and draw appropriate conclusions based on data.
5	Demonstrate the use of common laboratory equipment successfully.
6	Analyze, critically evaluate, and discuss relevant case studies and primary research articles from peer-reviewed scientific journals in the field of immunology.

Content outline

#	Topic
1	Lab safety in immunology and sample handling.
2	Hematological analysis: blood cell counts, differential counts and abnormalities associated with counts.

#	Topic
3	Serological testing: serum titrations using different classic immunological techniques such as agglutination, precipitation, complement-fixation and labelling assays.
4	Advanced immunological techniques: ELISA (Direct & Indirect), Immunofluorescence, and flow cytometry.
5	Blood grouping, blood transfusions and tissue typing and their applications in tissue and organ transplant
6	Case study discussions related to planned lab topics and primary research article reviews.

Student expectations and requirements

The students will be required to perform hands-on exercises and experiments in a laboratory setting. The students will conduct experiments, analyze data, and test hypotheses related to immunology concepts discussed in the corresponding lecture course and immunology research articles. Assessment will be based on student participation, laboratory worksheets, lab notebooks, quizzes, exams, and case study analyses.

Tentative texts and course materials

There is no textbook or a laboratory manual required for the course. The students will have access to resources and handouts outlining details for each laboratory exercises through the Blackboard Ultra course site.

Special equipment, materials, or library resources needed

No special equipment or materials are required. We have all equipments and resources required for the course.

Additional information

Supporting documentation

Reviewer Comments

Course Change Request

Date Submitted: 09/20/24 2:09 pm

Viewing: **BIOL 382 : Introductory**

Biostatistics

Last approved: 01/31/24 3:16 am

Last revision: 09/20/24 2:09 pm

Changes proposed by: dgl13110

Catalog Pages
referencing this
course

[Biology_\(BIOL\)](#)

[Department of Biology](#)

Proposed Action

Active

Contact(s)

Name	E-mail	Phone
Doug McElroy	doug.mcelroy@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. 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 11/01/24 9:59 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. Jan 31, 2024 by
Scott Grubbs
(scott.grubbs)

Term for implementation	Summer 2025		
Academic Level	Undergraduate		
Course prefix (subject area)	BIOL - Biology	Course number	382
Department	Biology		
College	Science and Engineering		
Course title	Introductory Biostatistics		
Abbreviated course title	INTRO BIOSTAT		

Course description

Introduction to statistical techniques and experimental design applied to the biological sciences. Probability and distributions, descriptive statistics, hypothesis testing and statistical inference using t-statistics, regression, ANOVA, chi-square, non-parametric tests. Use of computers and analysis of real data are emphasized.

Credit hours 0-3

Repeatable

Yes

Number of repeats 2

For maximum credits 3

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

Is this course intended to span more than one term?

No

Schedule type

~~Lab~~

Lecture

CIP Code 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		BIOL 120	C	UG		<u>No</u>
And		BIOL 121	C	UG		<u>No</u>
And		BIOL 122	C	UG		<u>No</u>
And		BIOL 123	C	UG		<u>No</u>
And	(	MATH <u>116</u> 117	D	UG		<u>No</u>
Or		MATH 119	D	UG		
Or		MATH 136	D	UG	)	<u>No</u>

Corequisites

Equivalent Courses

Restrictions:

College restriction? No

Field of study restriction/major? No

Classification restriction? No

Departmental Restrictions

Reason for changing the course

Removing MATH 117 as a prerequisite and replacing it with MATH 116 aligns the course prerequisites with (1) intended revisions to the supporting course requirements for the biology majors (ref. nos. 617 and 525), the proposals for which will be forthcoming and (2) the mathematics content needed for students to be successful in BIOL 382. Trigonometry (MATH 117) is not relevant to the content of BIOL 382. Additions of Student Learning Outcomes and Course Outline. ~~Note -- we originally were going to change prerequisites here but decided to wait until later in spring 2024 or fall 2024 in concert with program-level changes. The prerequisites listed above are the same as in the Undergraduate Catalog.~~

Is this related to other courses at WKU?

Yes ~~No~~

Related courses

MATH 183 - Introductory Statistics

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.

The Biology Department Chair/BIOL 382 instructor Dr. Doug McElroy met with Mathematics Department Chair Dr. Kanita DuCloux on 7/18/2024 to discuss the plan to remove MATH 117 as a supporting course for the biology major. We provided data showing the anticipated limited impact on MATH 117 enrollments that would result from this change. Dr. DuCloux was supportive of this change. No impact

How are these related?

MATH 183 is viewed as an viable option as part of the supporting courses for the biology major.

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

Are you seeking Colonnade approval for this course? No

Student Learning Outcomes

#	Student Learning Outcomes
1	Carry out and appropriately interpret tests of significance on various types of biological data.
2	Utilize some common statistical software packages and critically evaluate studies presented in the scientific and popular literature.
3	Develop the perspective to understand and appreciate the role of experimental design and hypothesis testing in biology and medicine.

Content outline

#	Topic
1	Introduction to Statistical Inference
2	Descriptive Statistics
3	Laws of Probability
4	Categorical and Risk Statistics
5	Differences in Means
6	Linear Relationships

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: 10/28/24 12:29 pm

Viewing: **BIOL 472 : Applied and Environmental Microbiology**

Last approved: 09/17/21 9:27 am

Last revision: 10/28/24 12:29 pm

Changes proposed by: dgl13110

Programs
referencing this
course

[525: Biology, Bachelor of Science](#)

[617: Biology, Bachelor of Science](#)

Proposed Action

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. 10/23/24 8:02 am
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 10/23/24 4:44 pm
Stuart Burris
(stuart.burris):
Rollback to Initiator
3. 10/28/24 12:29 pm
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
4. 11/01/24 9:59 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. Sep 17, 2021 by
Scott Grubbs
(scott.grubbs)

~~Suspended~~

Active

Contact(s)

Name	E-mail	Phone
Scott Grubbs	scott.grubbs@wku.edu	270 202-6981

Review Type

Full Review

Term for implementation

Summer 2025

Academic Level

Undergraduate

Course prefix (subject area)

BIOL - Biology

Course number 472

Department

Biology

College

Science and Engineering

Course title

Applied and Environmental Microbiology

Abbreviated course title

APPLIED & ENVIRON MICRO

Course description

A study about ~~of~~ the roles of microorganisms in environmental systems ~~food preservation, fermentation, spoilage~~ and their applications in biotechnology, agriculture, and industry. ~~food intoxication.~~ The course will provide an overview ~~Production~~ of microbial technologies that are used for the benefit ~~products~~ of humans including production ~~industrial interest; application~~ of microbial products of industrial interest, bioremediation, wastewater treatment, ~~modern microbiological techniques to industrial processes; interrelationships between microorganisms~~ and the use of microbes in sustainable practices. ~~their environment.~~

Credit hours

0-4

Repeatable

Yes

Number of repeats 2

For maximum credits 4

Default grade type

Standard Letter

Alternate grade type(s)

NG-No Grade

Is this course intended to span more than one term?

No

Schedule type

Lab
Lecture

CIP Code 260101 - Biology/Biological Sciences, General.

Does this course have prerequisites

Yes

Prerequisites

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	BIOL 226 207	D	UG		
And		BIOL 227 208	D	UG)	
Or	(	BIOL-226	D	UG		
And		BIOL-227	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

There are two proposed changes. BIOL 472 is being resurrected from suspended status to be included as a core course in the proposed new Applied Microbiology (AM) concentration in reference number 525. This course will provide education and training in the field of microbiology and its workforce applications together with other relevant microbiology courses listed in the forthcoming AM Concentration. In addition, we are restricting the prerequisites of the course to only majors-level microbiology to align with nearly every other majors-level 200-level course and higher in Biology. The only exceptions are our Connections 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.

There will be no impact on any other courses or programs.

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
<u>1</u>	<u>Identify the diversity and functions of microbial interrelations in various environments</u>
<u>2</u> ⁴	<u>Explain the use of microorganisms in commercial production of various products</u>
<u>3</u>	<u>Describe the role of microbes in biotechnological applications.</u>
<u>4</u>	<u>Assess the ecological impact of microorganisms in agriculture and the ecosystem</u>
<u>5</u>	<u>Describe the use of microorganisms in sewage & waste water treatments, biogeochemical recycling, bioremediation, and biofuel production.</u>
<u>6</u>	<u>Explain the concepts of fermentation processes used in industries for large scale production of microbial products</u>
<u>7</u>	<u>Evaluate scientific articles in the field of applied microbiology</u>

Content outline

#	Topic
1	<u>Diversity and functions of microorganisms in various environments</u>
<u>2</u>	<u>Microbial Physiology and bioprocessing</u>
<u>3</u>	<u>Wastewater treatment and water purification</u>
<u>4</u>	<u>Genetic Engineering and Biotechnology</u>
<u>5</u>	<u>Industrial Fermentations: Design, development and optimization</u>
<u>6</u>	<u>Soil and Agriculture microbiology</u>
<u>7</u>	<u>Role of microorganisms in environmental pollution control</u>

#	Topic
<u>8</u>	<u>Emerging microbial technologies</u>

Student expectations and requirements

The students will be expected to complete assigned reading and assignments related to the topics discussed in class, conduct experimental analysis of microbial biochemical pathways and its applications in industrial productions. Read and present scientific research articles relevant to applied and environmental microbiology. The course assessment will be based on student participation, in-class assignments, quizzes, exams, laboratory analysis and presentations.

Tentative texts and course materials

Special equipment, materials, or library resources needed

Additional information

Supporting documentation

Reviewer Comments

Stuart Burris (stuart.burris) (10/23/24 4:44 pm): Rollback: Change to Full Review due to extent of changes in description plus addition of Learning Outcomes and Course Outline. Also reconsider the pre-reqs.

Program Change Request

Date Submitted: 10/25/24 12:11 pm

Viewing: **525 : Biology, Bachelor of Science**

Last approved: 06/25/24 2:23 pm

Last edit: 10/25/24 12:11 pm

Changes proposed by: smr85629

Catalog Pages

Using this Program

[Biology, Bachelor of Science \(525\)](#)

Proposed Action

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. Program Inventory

Approval Path

1. 10/25/24 2:30 pm
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. May 19, 2021 by
Rheanna Plemons
(rheanna.plemons)
2. Aug 25, 2021 by
Jessica Dorris
(jessica.dorris)
3. Apr 22, 2022 by
Jessica Dorris
(jessica.dorris)
4. Apr 12, 2023 by
Jennifer Hammonds
(jennifer.hammonds)

5. May 23, 2024 by
Jessica Dorris
(jessica.dorris)
6. Jun 25, 2024 by
Ryan Wilson
(ryan.wilson)

Active

Contact Person

Name	Email	Phone
Simran Banga	simran.banga@wku.edu	270-745-4748

Term of Implementation 2025-2026

Implementation

Program Reference Number 525

Review Type Full Review

Academic Level Undergraduate

Program Type Major

Degree Types Bachelor of Science

Department Biology

College Science and Engineering

Program Name (eg. Biology) Biology, Bachelor of Science

Will this program have concentrations?

Yes

Concentrations

[Applied Genetics \(AG\)](#)

[Applied Microbiology \(AM\)](#)

[Animal Physiology and Behavior \(APB\)](#)

[Ecology, Wildlife, & Conservation \(EWC\)](#)

[Integrative Biology \(IB\)](#)

[Pre-Medical Professions \(PMP\)](#)

CIP Code 26.0101 - Biology/Biological Sciences, General.

Will this program lead to teacher certification? Yes ~~No~~

lead to teacher certification?

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

Program Overview (Catalog field: Overview tab)

The major in Biology ~~biology~~ (525) provides students the opportunity to undertake an in-depth study of biological sciences and its applications. ~~biology~~: A minor, second major, or certificate is not required. The major in Biology begins with foundation classes and laboratories that build into a core of advanced courses and laboratories. ~~required~~: In addition to a required core, students complete a range of biology elective courses tailored to their interests to support their career goals. The students that can also apply up to six credit hours of faculty-guided independent research and/or an internship experience toward their degree program. ~~be tailored to their individual interests~~:

The program offers six different concentrations - Applied Genetics (AG), Applied Microbiology (AM), Animal Physiology & Behavior (APB), Ecology, Wildlife, & Conservation (EWC), Integrative Biology (IB), and Pre-Medical Professions (PMP). These six concentrations are designed to facilitate essential requirements and provide training for a variety of career pathways and advanced degree programs to suit student interests.

~~In addition to coursework, students have the opportunity to apply up to six semester hours of faculty-guided independent research and/or internship towards their degree. This program is particularly well-suited to students interested in pursuing advanced study in a biology-related field or who require training in specific areas to support their career goals.~~

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (54 ~~48~~ hours)

This option for a major in biology requires a minimum of 54 ~~48~~ hours in biology including 29-30 ~~with 24~~ hours at the 300 or higher level. No minor is required. A range of upper-level courses are aligned with six concentrations offered within the major.

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 3, 2024 1:10pm

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>.

Required Courses		9
<u>BIOL 120</u> & <u>BIOL 121</u>	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab ¹	
<u>BIOL 122</u> & <u>BIOL 123</u>	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab ¹	
<u>BIOL 489</u>	Professional Aspects of Biology	
Restricted Electives [*]		4
Select one of the following:		4
<u>Required Supporting Courses</u>		<u>12-13</u>

<u>BIOL 382</u>	<u>Introductory Biostatistics</u>
<u>or MATH 136</u>	<u>Calculus I</u>
<u>or MATH 183</u>	<u>Introductory Statistics</u>
<u>CHEM 120</u> & <u>CHEM 121</u>	<u>College Chemistry I</u> & <u>College Chemistry I Laboratory</u>
<u>PHYS 231</u> & <u>PHYS 232</u>	<u>Introduction to Physics and Biophysics I</u> & <u>Laboratory for Physics and Biophysics I</u>

Applied Genetics Concentration

AG Core

21

BIOL 224 Animal Biology and Diversity
& BIOL 225 and Animal Biology and Diversity Lab

BIOL 327 Genetics
& BIOL 337 and Genetics Laboratory

Select one of the following:

3

BIOL 316 Evolution: Theory and Process

BIOL 312 Bioinformatics

BIOL 319 Introduction to Molecular and Cell Biology

or BIOL 382 Introductory Biostatistics

or BIOL 411 Cell Biology

BIOL 403 Molecular Basis of Cancer

or BIOL 495 Molecular Genetics

AG Electives

12-13

Suggested electives, include at least one with an associated lab component *

BIOL 319 Introduction to Molecular and Cell Biology

BIOL 328 Immunology

BIOL 335 Neurobiology

BIOL 350 Introduction to Recombinant Genetics

BIOL 369 Cooperative Education in Biology

BIOL 382 Introductory Biostatistics

BIOL 399 Research Problems in Biology

BIOL 403 Molecular Basis of Cancer

BIOL 407 Virology

BIOL 411 Cell Biology

BIOL 446 Biochemistry I

BIOL 450	Recombinant Gene Technology	
BIOL 495	Molecular Genetics	
<u>Applied Microbiology Concentration</u>		
<u>AM Core</u>		<u>22-23</u>
BIOL 226 & BIOL 227	Microbial Biology and Diversity and Microbial Biology and Diversity Lab	
Select one of the following:		4
BIOL 319 & BIOL 322	Introduction to Molecular and Cell Biology and Introduction to Molecular and Cell Biology Laboratory	
BIOL 316	<u>Evolution: Theory and Process</u>	
BIOL 312	Bioinformatics	
BIOL 470	Pathogenic Microbiology	
BIOL 328	<u>Immunology</u>	
or BIOL 336	Course BIOL 336 Not Found	
or BIOL 472	Course BIOL 472 Not Found	
or BIOL 407	<u>Virology</u>	
<u>AM Electives</u>		<u>11-12</u>
<u>Suggested electives *</u>		
BIOL 328	<u>Immunology</u>	
BIOL 336	Course BIOL 336 Not Found	
BIOL 350	Introduction to Recombinant Genetics	
BIOL 369	<u>Cooperative Education in Biology</u>	
BIOL 399	<u>Research Problems in Biology</u>	
BIOL 407	<u>Virology</u>	
BIOL 446	<u>Biochemistry I</u>	
BIOL 450	<u>Recombinant Gene Technology</u>	
BIOL 472	Course BIOL 472 Not Found	
BIOL 495	<u>Molecular Genetics</u>	
<u>Animal Physiology & Behavior</u>		
<u>APB CORE</u>		<u>21</u>
BIOL 224 & BIOL 225	<u>Animal Biology and Diversity</u> <u>and Animal Biology and Diversity Lab</u>	
BIOL 316	<u>Evolution: Theory and Process</u>	

<u>BIOL 327</u> & <u>BIOL 337</u>	<u>Genetics</u> <u>and Genetics Laboratory</u>
<u>BIOL 330</u> & <u>BIOL 331</u>	<u>Animal Physiology</u> <u>and Animal Physiology Laboratory</u>
<u>BIOL 334</u>	<u>Animal Behavior</u>
<u>BIOL 335</u>	<u>Neurobiology</u>
or <u>BIOL 377</u>	<u>Animal Form and Function</u>
or <u>BIOL 464</u>	<u>Endocrinology</u>
<u>APB Electives</u>	<u>12-13</u>
<u>Suggested electives, include at least one with an associated lab component *</u>	
<u>BIOL 315</u>	<u>Ecology</u>
<u>BIOL 321</u>	Comparative Anatomy
<u>BIOL 335</u>	<u>Neurobiology</u>
<u>BIOL 377</u>	<u>Animal Form and Function</u>
<u>BIOL 382</u>	<u>Introductory Biostatistics</u>
<u>BIOL 369</u>	<u>Cooperative Education in Biology</u>
<u>BIOL 399</u>	<u>Research Problems in Biology</u>
<u>BIOL 446</u>	<u>Biochemistry I</u>
<u>BIOL 464</u>	<u>Endocrinology</u>
<u>Pre-Medical Professions Concentration</u>	
<u>PMP Core</u>	<u>17-19</u>
<u>BIOL 224</u> & <u>BIOL 225</u>	<u>Animal Biology and Diversity</u> <u>and Animal Biology and Diversity Lab</u>
or <u>BIOL 226</u> & <u>BIOL 227</u>	<u>Microbial Biology and Diversity</u> <u>and Microbial Biology and Diversity Lab</u>
<u>BIOL 316</u>	<u>Evolution: Theory and Process</u>
<u>BIOL 319</u> & <u>BIOL 322</u>	<u>Introduction to Molecular and Cell Biology</u> <u>and Introduction to Molecular and Cell Biology Laboratory</u>
or <u>BIOL 327</u> & <u>BIOL 337</u>	<u>Genetics</u> <u>and Genetics Laboratory</u>
<u>BIOL 330</u> & <u>BIOL 331</u>	<u>Animal Physiology</u> <u>and Animal Physiology Laboratory</u>
or <u>BIOL 397</u>	<u>Scientific Process</u>
or <u>BIOL 411</u> & <u>BIOL 412</u>	<u>Cell Biology</u> <u>and Cell Biology Laboratory</u>

<u>BIOL 321</u>	<u>Comparative Anatomy</u>
or <u>BIOL 328</u>	<u>Immunology</u>
or <u>BIOL 382</u>	<u>Introductory Biostatistics</u>
or <u>BIOL 446</u>	<u>Biochemistry I</u>

PMP Electives

13-16

Suggested electives, include at least one with an associated lab component *

<u>BIOL 319</u>	<u>Introduction to Molecular and Cell Biology</u>
<u>BIOL 327</u>	<u>Genetics</u>
<u>BIOL 328</u>	<u>Immunology</u>
<u>BIOL 330</u>	<u>Animal Physiology</u>
<u>BIOL 335</u>	<u>Neurobiology</u>
<u>BIOL 321</u>	<u>Comparative Anatomy</u>
<u>BIOL 369</u>	<u>Cooperative Education in Biology</u>
<u>BIOL 382</u>	<u>Introductory Biostatistics</u>
<u>BIOL 397</u>	Scientific Process
<u>BIOL 399</u>	<u>Research Problems in Biology</u>
<u>BIOL 411</u>	<u>Cell Biology</u>
<u>BIOL 446</u>	<u>Biochemistry I</u>
<u>BIOL 464</u>	<u>Endocrinology</u>
<u>BIOL 470</u>	Pathogenic Microbiology

Ecology, Wildlife, & Conservation

EWC Core

22-23

<u>BIOL 222</u> & <u>BIOL 223</u>	Plant Biology and Diversity and Plant Biology and Diversity Lab
or <u>BIOL 224</u> & <u>BIOL 225</u>	Animal Biology and Diversity and Animal Biology and Diversity Lab
<u>BIOL 315</u> & <u>BIOL 355</u>	<u>Ecology</u> <u>and Ecology Lab</u>
<u>BIOL 316</u>	<u>Evolution: Theory and Process</u>
<u>BIOL 327</u> & <u>BIOL 337</u>	<u>Genetics</u> <u>and Genetics Laboratory</u>
<u>BIOL 332</u>	<u>Principles of Wildlife Ecology</u>
or <u>BIOL 458</u>	<u>Fisheries Management</u>
<u>BIOL 382</u>	<u>Introductory Biostatistics</u>

Suggested electives, include at least one with an associated lab component *

<u>BIOL 325</u>	Insect Biodiversity
<u>BIOL 332</u>	<u>Principles of Wildlife Ecology</u>
<u>BIOL 326</u>	<u>Ornithology</u>
<u>BIOL 369</u>	<u>Cooperative Education in Biology</u>
<u>BIOL 399</u>	<u>Research Problems in Biology</u>
<u>BIOL 348</u>	Plant Taxonomy
<u>BIOL 456</u>	Ichthyology
<u>BIOL 457</u>	Herpetology
<u>BIOL 458</u>	Fisheries Management
<u>BIOL 459</u>	<u>Mammalogy</u>
<u>BIOL 477</u>	<u>Marine Biology</u>
<u>BIOL 485</u>	Field Biology
<u>BIOL 497</u>	Aquatic Field Ecology

Science Process Courses²Integrative Biology ConcentrationIB Core + Electives

<u>BIOL 222</u> & <u>BIOL 223</u>	<u>Plant Biology and Diversity</u> <u>and Plant Biology and Diversity Lab</u>
or <u>BIOL 224</u> & <u>BIOL 225</u>	<u>Animal Biology and Diversity</u> <u>and Animal Biology and Diversity Lab</u>
or <u>BIOL 226</u> & <u>BIOL 227</u>	<u>Microbial Biology and Diversity</u> <u>and Microbial Biology and Diversity Lab</u>
<u>BIOL 319</u> & <u>BIOL 322</u>	<u>Introduction to Molecular and Cell Biology</u> <u>and Introduction to Molecular and Cell Biology Laboratory</u>
or <u>BIOL 327</u> & <u>BIOL 337</u>	<u>Genetics</u> <u>and Genetics Laboratory</u>
<u>BIOL 315</u>	Ecology
or <u>BIOL 316</u>	Evolution: Theory and Process

Laboratory Experience Courses²Laboratory Experience Courses (Select Two) *

<u>BIOL 212</u>	Genome Discovery Exploration
<u>BIOL 312</u>	<u>Bioinformatics</u>

<u>BIOL 321</u>	<u>Comparative Anatomy</u>
<u>BIOL 322</u>	Introduction to Molecular and Cell Biology Laboratory
<u>BIOL 325</u>	<u>Insect Biodiversity</u>
<u>BIOL 331</u>	Animal Physiology Laboratory
<u>BIOL 337</u>	Genetics Laboratory
<u>BIOL 338</u>	<u>Course BIOL 338 Not Found</u>
<u>BIOL 348</u>	<u>Plant Taxonomy</u>
<u>BIOL 350</u>	<u>Introduction to Recombinant Genetics</u>
<u>BIOL 355</u>	Ecology Lab
<u>BIOL 356</u>	Ornithology Lab
<u>BIOL 404</u>	Techniques and Theory of Electron Microscopy
<u>BIOL 412</u>	Cell Biology Laboratory
<u>BIOL 447</u>	Biochemistry Laboratory
<u>BIOL 450</u>	<u>Recombinant Gene Technology</u>
<u>BIOL 456</u>	Ichthyology
<u>BIOL 457</u>	Herpetology
<u>BIOL 458</u>	<u>Fisheries Management</u>
<u>BIOL 470</u>	<u>Pathogenic Microbiology</u>
<u>BIOL 472</u>	<u>Course BIOL 472 Not Found</u>
<u>BIOL 485</u>	<u>Field Biology</u>
<u>BIOL 496</u>	Plant Biotechnology
<u>BIOL 497</u>	Aquatic Field Ecology
<u>Science Process Courses (Select One) *</u>	
<u>BIOL 212</u>	Genome Discovery Exploration
<u>BIOL 312</u>	<u>Bioinformatics</u>
<u>BIOL 331</u>	Animal Physiology Laboratory
<u>BIOL 350</u>	<u>Introduction to Recombinant Genetics</u>
<u>BIOL 355</u>	Ecology Lab
<u>BIOL 397</u>	<u>Scientific Process</u>
<u>BIOL 404</u>	Techniques and Theory of Electron Microscopy
<u>BIOL 407</u>	<u>Virology</u>
<u>BIOL 412</u>	Cell Biology Laboratory

BIOL 456	Ichthyology
BIOL 457	Herpetology
BIOL 470	Pathogenic Microbiology
BIOL 495	Molecular Genetics
BIOL 496	Plant Biotechnology
BIOL 497	Aquatic Field Ecology
HON 404	Honors Thesis / Project II

Elective Course Work^{2*}

¹
Must complete with a grade of "C" or better.

²
Elective Coursework:

In consultation with their advisor, students select majors-level coursework to obtain a minimum of 54 credits total, provided that at least 30 hours total are upper-division courses.

Students may count up to 6 credit hours of a combination of [BIOL 369](#) and/or [BIOL 399](#), and up to 4 credits of [BIOL 485](#) toward this major.

*
The following BIOL courses will not count towards the BIOL electives nor the Biology major requirements: [BIOL 113](#), [BIOL 114](#), [BIOL 131](#), [BIOL 231](#), [BIOL 207](#), [BIOL 208](#), [BIOL 295](#), [BIOL 303](#).

~~A range of upper level courses are available in ecology and evolutionary biology, molecular and cellular biology, plant biology, animal biology, and microbiology. Supporting Courses Because an understanding of the principles of subjects outside of biology, in particular agriculture, chemistry, geography and geology, mathematics, physics and sociology is essential to the study of biology; majors are required to complete support courses:~~

MATH 116	College Algebra	3
MATH 117	Trigonometry	3
or MATH 136	Calculus I	
GHEM 120 & GHEM 121	College Chemistry I and College Chemistry I Laboratory	5
Select one of the following:		3
Select one of the following:		4
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	
PHYS 255 & PHYS 256	University Physics I and University Physics I Lab	
Select two of the following:		6
AGRO 350	Soils	
BIOL 382	Introductory Biostatistics	
CHEM 222 & CHEM 223	College Chemistry II and College Chemistry II Laboratory	

CHEM 340 & CHEM 341	Organic Chemistry I and Organic Chemistry Laboratory I
BDAN 305	Data Modeling and Analysis
CS 146	Introduction to Programming
GISC 316	Geographic Information Systems I
GISC 317	Geographic Information Systems II
MATH 136	Calculus I
MATH 137	Calculus II
SOGL 302	Social Research Methods

Total Hours

0

4-Year Plan

First Year

Fall	Hours	Spring	Hours
<u>BIOL 120</u> & <u>BIOL 121</u> or <u>BIOL 122 and BIOL 123</u>	4	<u>BIOL 120</u> & <u>BIOL 121 (or BIOL 122, BIOL 123)</u>	4
<u>MATH 116</u> (or higher)	3	<u>MATH 117</u> (or higher)	3
<u>ENG 100</u>	3	<u>BIOL 122</u> & <u>BIOL 123</u> or <u>BIOL 120 and BIOL 121</u>	4
<u>HIST 101</u> or <u>HIST 102</u>	3	<u>CHEM 120</u> & <u>CHEM 121</u>	5
<u>Elective</u>	3	<u>COMM 145</u> Colonnade - Explorations	3
	16		15

Second Year

Fall	Hours	Spring	Hours
<u>BIOL 222</u> & <u>BIOL 223</u> , <u>BIOL 224 and BIOL 225</u> , or <u>BIOL 226 and BIOL 227</u>	4	<u>BIOL 319</u> & <u>BIOL 322</u> or <u>BIOL 327 and BIOL 337</u>	4
Biology Science Supporting course (see Biology advisor)	4	<u>ENG 200</u>	3
<u>Colonnade - Foundations</u>	3	BIOL Science Supporting Course (see Biology advisor)	4
Colonnade - Explorations	3	<u>Upper-Level BIOL elective with lab</u>	4
<u>Upper-level BIOL elective with lab</u> (see Biology advisor)	4	<u>Colonnade - Explorations</u>	3
	14		14

Third Year

Fall	Hours	Spring	Hours
<u>BIOL 315</u> or <u>BIOL 316</u>	3	Upper-Level BIOL Elective with Lab	4
<u>COMM 145</u>	3	<u>Upper-Level Elective</u>	3

First Year

Fall	Hours	Spring	Hours
Upper-Level BIOL Elective with lab (see Biology advisor)	4	Upper-Level BIOL Elective	3
Colonnade - Explorations	3	Upper-Level BIOL Elective with Lab	4
Colonnade - Connections	3	Colonnade Connections	3
<u>Upper-Level Elective</u>	3	Writing in the Disciplines	3
	16		16

Fourth Year

Fall	Hours	Spring	Hours
BIOL 489	1	Upper-Level BIOL Elective	4
Upper-Level BIOL Elective	4	Upper-Level BIOL Elective	4
World Language	3	Colonnade - Connections	3
BIOL Process Elective	3	Upper-Level BIOL Elective	4
Upper-Level Elective	3		
	14		15

Total Hours 120

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

No

Does this program include courses from outside your department?

Yes

Outside Courses

Details

Who approved including these courses?	When were they approved?
<u>Math - Dr. Kanita DuCloux</u>	<u>7/18/2024</u>
<u>Chemistry - Dr. Matt Nee</u>	<u>7/8/2024</u>
<u>Physics - Dr. Mike Carini</u>	<u>7/11/2024</u>

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	Demonstrate a level of biological content knowledge appropriate to their degree level.	Biology Assessment Exam – an objective, 56-item multiple-choice instrument designed to assess content knowledge within the program discipline. The exam is constructed around 14 vignettes, 2 each representing the seven major areas of emphasis in our core curriculum (Cells, Metabolism, Genetics, Ecology, Evolution, Diversity, and Biotechnology).
SLO 2	Demonstrate an understanding of research ethics and the responsible conduct of research.	The Collaborative Institutional Training Initiative (CITI) research ethics training course in Responsible Conduct of Research
SLO 3	Demonstrate the ability to apply scientific methodology and field/laboratory/analytical skills to a biological question.	Process-based project, culminating in either a master's thesis or a product of independent investigation (nonthesis), assessed using the AAC&U LEAP Inquiry & Analysis rubric.

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

Upload Assessment Plan [biology_ug_525_2023-24.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.

0

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

Yes

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

No

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

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

Library Resources

Attach library resources

Rationale for the program proposal?

The proposed curricular concentrations are intended to provide structured curricula within the biology major that are specifically tailored to career and professional opportunities for graduates; because biology is a diverse discipline, this structure will better enable students and their advisors to design degree programs that will best prepare students for high-demand and/or emerging career opportunities in the field.

The proposed reduction in supporting course requirements and inclusion of those requirements as part of the major is intended to streamline the curriculum, and make all requirements more transparent to students. This will facilitate their progress and timely degree completion, while still ensuring adequate preparation for careers in biology-related fields.

Additional Attachments

Additional information or attachments

Updated by Registrar 4/22/22. CIS 243 changed to BDAN 305 effective 202230.

Reviewer Comments

Program Change Request

Date Submitted: 10/25/24 12:08 pm

Viewing: **617 : Biology, Bachelor of Science**

Last approved: 06/25/24 2:26 pm

Last edit: 10/25/24 12:07 pm

Changes proposed by: smr85629

Catalog Pages

Using this Program

[Biology, Bachelor of Science \(617\)](#)

Proposed Action

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. Program Inventory

Approval Path

1. 10/25/24 2:30 pm
Douglas McElroy
(doug.mcelroy):
Approved for BIOL Approval
2. 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. May 19, 2021 by
Rheanna Plemons
(rheanna.plemons)
2. Jul 30, 2021 by
Jessica Dorris
(jessica.dorris)
3. Apr 22, 2022 by
Jessica Dorris
(jessica.dorris)
4. Apr 12, 2023 by
Jennifer Hammonds
(jennifer.hammonds)

- 5. May 23, 2024 by Jessica Dorris (jessica.dorris)
- 6. Jun 25, 2024 by Ryan Wilson (ryan.wilson)
- 7. Jun 25, 2024 by Ryan Wilson (ryan.wilson)

Active

Contact Person

Name	Email	Phone
Simran Banga	simran.banga@wku.edu	2707454748

Term of Implementation 2025-2026

Program Reference Number 617

Review Type Full Review

Academic Level Undergraduate

Program Type Major

Degree Types Bachelor of Science

Department Biology

College Science and Engineering

Program Name (eg. Biology) Biology, Bachelor of Science

Will this program have concentrations?
Yes

Concentrations

Concentrations

Teacher Education (TCHR)

CIP Code 26.0101 - Biology/Biological Sciences, General.

Will this program lead to teacher certification? Yes ~~No~~

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

No

Catalog Content

Program Overview (Catalog field: Overview tab)

The major in Biology (Reference Number 617) provides ~~biology (617) gives students~~ an opportunity to acquire couple broad-based study in biology for students who wish to be certified to teach high school biology. ~~with a second major, minor, or certificate. In addition to coursework, students may apply up to three semester hours of faculty-guided independent research and/or internship towards their degree.~~ These students ~~Students who wish to be certified to teach high school biology~~ must complete both the major in Biology (617) ~~(reference number 617)~~ with a teacher education certification (TCHR) ~~(TGHR)~~, and the major in Science and Mathematics Education (reference number 774). Interested students should contact the SKyTeach Office, Kelly Thompson Hall 1011A, 270-745-3900 or visit www.wku.edu/skyteach. In addition to coursework, students may apply up to three credit semester hours of faculty-guided independent research and/or an internship experience towards their degree.

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (36 hours)

This option for a major in biology requires a minimum of 36 semester hours in biology with 18 hours at the 300 or higher level plus the required supporting courses in addition to requirements of a TCHR minor area or a second major. The major/second major-minor/second major combination must be at least 54 total hours with 48 unduplicated hours.

Approved Shared Content from /shared/undergraduate-major-requirements/

Last Approved: Jul 3, 2024 1:10pm

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>.

Required Courses	9
<u>BIOL 120</u> & <u>BIOL 121</u>	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab ¹
<u>BIOL 122</u> & <u>BIOL 123</u>	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab ¹
<u>BIOL 489</u>	Professional Aspects of Biology
Restricted Electives*	
Select one of the following:	4
<u>Biology Core*</u>	<u>27</u>
<u>BIOL 222</u> & <u>BIOL 223</u>	Plant Biology and Diversity and Plant Biology and Diversity Lab
or <u>BIOL 224</u> & <u>BIOL 225</u>	Animal Biology and Diversity and Animal Biology and Diversity Lab

or [BIOL 226](#) Microbial Biology and Diversity
& [BIOL 227](#) and Microbial Biology and Diversity Lab

~~[BIOL 224](#) Animal Biology and Diversity
& [BIOL 225](#) and Animal Biology and Diversity Lab~~

~~[BIOL 226](#) Microbial Biology and Diversity
& [BIOL 227](#) and Microbial Biology and Diversity Lab~~

Select one of the following:

4

[BIOL 319](#) Introduction to Molecular and Cell Biology
& [BIOL 322](#) and Introduction to Molecular and Cell Biology Laboratory

or [BIOL 327](#) Genetics
& [BIOL 337](#) and Genetics Laboratory

~~[BIOL 327](#) Genetics
& [BIOL 337](#) and Genetics Laboratory~~

Select one of the following:

3

[BIOL 315](#) Ecology

or [BIOL 316](#) Evolution: Theory and Process

Laboratory Experience Courses *

Select three of the following

[BIOL 212](#) Genome Discovery Exploration

[BIOL 312](#) Bioinformatics

[BIOL 321](#) Comparative Anatomy

[BIOL 322](#) Introduction to Molecular and Cell Biology Laboratory

[BIOL 325](#) Insect Biodiversity

~~[BIOL 328](#) Immunology~~

[BIOL 331](#) Animal Physiology Laboratory

[BIOL 337](#) Genetics Laboratory

[BIOL 338](#) ~~Course BIOL 338 Not Found~~ ([Immunology Laboratory](#))

[BIOL 348](#) Plant Taxonomy

[BIOL 350](#) Introduction to Recombinant Genetics

[BIOL 355](#) Ecology Lab

[BIOL 356](#) Ornithology Lab

[BIOL 404](#) Techniques and Theory of Electron Microscopy

[BIOL 412](#) Cell Biology Laboratory

[BIOL 447](#) Biochemistry Laboratory

[BIOL 450](#) Recombinant Gene Technology

BIOL 456	Ichthyology
BIOL 457	Herpetology
BIOL 458	Fisheries Management
BIOL 470	Pathogenic Microbiology
BIOL 472	Course BIOL 472 Not Found
BIOL 485	Field Biology
BIOL 496	Plant Biotechnology
BIOL 497	Aquatic Field Ecology

Science Process Courses *

Select one of the following:

BIOL 212	Genome Discovery Exploration
BIOL 312	Bioinformatics
BIOL 331	Animal Physiology Laboratory
BIOL 350	Introduction to Recombinant Genetics
BIOL 355	Ecology Lab
BIOL 397	Scientific Process
BIOL 404	Techniques and Theory of Electron Microscopy
BIOL 407	Virology
BIOL 412	Cell Biology Laboratory
BIOL 456	Ichthyology
BIOL 457	Herpetology
BIOL 470	Pathogenic Microbiology
BIOL 495	Molecular Genetics
BIOL 496	Plant Biotechnology
BIOL 497	Aquatic Field Ecology
HON 404	Honors Thesis / Project II

Required Supporting Courses

12-13

BIOL 382	Introductory Biostatistics
or MATH 136	Calculus I
or MATH 183	Introductory Statistics
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory

PHYS 231
& PHYS 232

Introduction to Physics and Biophysics I
and Laboratory for Physics and Biophysics I

Total Hours

48-49

1

Must complete with a grade of "C" or better.

*

The following BIOL courses will not count towards the BIOL Core nor the Biology major requirements: [BIOL 113](#), [BIOL 114](#), [BIOL 131](#), [BIOL 231](#), [BIOL 207](#), [BIOL 208](#), [BIOL 295](#), [BIOL 303](#).

~~Supporting Courses Because an understanding of the principles of subjects outside of biology, in particular agriculture, chemistry, geography and geology, mathematics, physics and sociology is essential to the study of biology, majors are required to complete supporting courses. In consultation with their advisor, students select majors-level coursework to obtain a minimum of 36 credits total, provided that at least 18 hours total are upper-division courses. Students may count up to 3 credit hours of a combination of BIOL 369 and/or BIOL 399, and up to 4 credit hours of BIOL 485 toward this major.~~

MATH 116	College Algebra	3
MATH 117	Trigonometry	3
or MATH 136	Calculus I	
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	5
Select one of the following:		4
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	
PHYS 255 & PHYS 256	University Physics I and University Physics I Lab	
Select two of the following:		
AGRO 350	Soils	
BIOL 382	Introductory Biostatistics	
CHEM 222 & CHEM 223	College Chemistry II and College Chemistry II Laboratory	
CHEM 330	Quantitative Analysis	
CHEM 340 & CHEM 341	Organic Chemistry I and Organic Chemistry Laboratory I	
BDAN 305	Data Modeling and Analysis	
or GIS 226	Introduction to Visual Programming	
or CS 146	Introduction to Programming	
CS 146	Introduction to Programming	
GIS 316	Geographic Information Systems I	
GIS 317	Geographic Information Systems II	
MATH 136	Calculus I	

MATH 137	Calculus II	
PHYS 332 & PHYS 233	Introduction to Physics and Biophysics II and Laboratory for Physics and Biophysics II	
or PHYS 265 & PHYS 266	University Physics II and University Physics II Laboratory	
SOCL 302	Social Research Methods	
Total Hours		0

4-Year Plan

Finish in Four Plan

First Year

Fall	Hours	Spring	Hours
<u>BIOL 120</u> & <u>BIOL 121</u> or <u>BIOL 122 and BIOL 123</u>	4	<u>BIOL 120</u> & <u>BIOL 121 (or BIOL 122, BIOL 123)</u>	4
<u>MATH 116</u> (or higher)	3	<u>MATH 117 (or higher)</u>	3
<u>ENG 100</u>	3	<u>BIOL 122</u> & <u>BIOL 123</u> or <u>BIOL 120 and BIOL 121</u>	4
<u>HIST 101</u> or <u>HIST 102</u>	3	<u>CHEM 120</u> & <u>CHEM 121</u> <u>COMM 145</u> Course in Teacher Certificate	5 3 3
	13		15

Second Year

Fall	Hours	Spring	Hours
<u>BIOL 222</u> & <u>BIOL 223</u> or <u>BIOL 224 and BIOL 225 OR BIOL 226</u> and <u>BIOL 227</u>	4	<u>BIOL 319</u> & <u>BIOL 322</u> or <u>BIOL 327 and BIOL 337</u>	4
Course in Teacher Certificate	3	<u>ENG 200</u>	3
Biology Science Supporting Course with Lab	4	Biology Science supporting course with lab	4
Colonnade - Explorations	3	Colonnade - Explorations	3
Courses in Teacher Certificate	3	Course in Minor or Certificate	3
	17		17

Third Year

Fall	Hours	Spring	Hours
<u>BIOL 315</u> or <u>BIOL 316</u>	3	<u>BIOL upper-level Elective with lab</u>	4
<u>COMM 145</u>	3	Colonnade - Explorations	3
<u>BIOL upper-level Elective</u>	4	BIOL upper-division Elective with lab	4
Colonnade Foundation	3	<u>BIOL upper-level elective</u>	3
Colonnade - Explorations	3	Upper-division Course in Minor	3
<u>Course in Teacher Certificate</u>	3	Colonnade - Writing in the Disciplines	3
	16		16

First Year			
Fall	Hours	Spring	Hours
Fourth Year			
Fall	Hours	Spring	Hours
BIOL 489	1	BIOL upper-level Elective	3
Upper-level Course in Certificate	3	Upper-division Course in Certificate	3
Colonnade - Connections	3	Colonnade - Connections	3
World Language or Elective	3	Colonnade - Connections	3
BIOL Process Elective (see Biology advisor)	4		
	14		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?
Dr. Kanita DuCloux	7/18/2024
Dr. Matthew Nee	7/8/2024
Dr. Mike Carini	7/11/2024

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	Demonstrate a level of biological content knowledge appropriate to their degree level.	Biology Assessment Exam – an objective, 56-item multiple-choice instrument designed to assess content knowledge within the program discipline. The exam is constructed around 14 vignettes, 2 each representing the seven major areas of emphasis in our core curriculum (Cells, Metabolism, Genetics, Ecology, Evolution, Diversity, and Biotechnology).
SLO 2	Demonstrate an understanding of research ethics and the responsible conduct of research.	The Collaborative Institutional Training Initiative (CITI) research ethics training course in Responsible Conduct of Research
SLO 3	Demonstrate the ability to apply scientific methodology and field/laboratory/analytical skills	Process-based project, culminating in either a master's thesis or a product of independent

	List all student learning outcomes of the program.	Measurement Plan
	to a biological question.	investigation (nonthesis), assessed using the AAC&U LEAP Inquiry & Analysis rubric.

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

Upload Assessment Plan [biology_ug_617_2023-24.docx](#)

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

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

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

Library Resources

Attach library
resources

Rationale for the program proposal?

The proposed connection of this major in Biology with Program 774 is intended to create a clear linkage between biology and teacher preparation for students interested in a career as secondary education teachers. This will enable students and advisors to create a degree plan that will allow them to complete all required coursework within seven academic semesters, allowing the semester eight to be used for student teaching.

In addition, the proposed revision has reduced the Supporting Course requirement to include courses that are commonly and consistently taken by 617 students. The proposed reduction in supporting course requirements, and inclusion of those requirements into the major, is intended to streamline the curriculum and make it more transparent to students. This will facilitate their progress and timely degree completion.

Additional Attachments

Additional information or attachments

Updated by Registrar 4/22/22. CIS 243 changed to BDAN 305 effective 202230.

Reviewer Comments

Course Change Request

New Course Proposal

Date Submitted: 10/11/24 5:20 pm

Viewing: **PSYS 357 : Psychology and Film**

Last revision: 10/11/24 5:20 pm

Changes proposed by: and30774

Proposed Action

In Workflow

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

Approval Path

1. 10/28/24 12:51 pm
Amy Brausch
(amy.brausch):
Approved for PSYS Approval
2. 11/01/24 9:59 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

Active

Contact(s)

Name	E-mail	Phone
Diane Lickenbrock	diane.lickenbrock@wku.edu	270-745-3918

Term for implementation Spring 2025

Academic Level Undergraduate

Course prefix (subject area) PSYS - Psychological Sciences

Course number 357

Department Psychological Sciences

College Science and Engineering

Course title

Psychology and Film

Abbreviated course title PSYCHOLOGY AND FILM

Course description

This course includes analysis and critique of psychological principles/themes in film. Sociocultural changes in the lay understanding of psychology as depicted through film will be discussed, including whether phenomena are portrayed accurately or misrepresented.

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/Lab

CIP Code 429999 - Psychology, Other.

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 true interdisciplinary course that examines the portrayal of psychological principles and themes in movies. This subject can be approached from at least two main directions – from the point of view of Psychological Science (extended major, concentrations: clinical, applied/social, developmental or the minor in psychological science) and from the point of view of Film Makers (film, film studies minor). Although it is clear that the Psychological Science and Film majors/minors are obvious sources of students who would take this class, many other people have interest in each of these perspectives (e.g., English, History, Sociology, Criminology, Psychology).

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.

Film-Sara Thomason and Travis Newton, Spring 2024

English-Marla Zubel, Spring 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?

35

How many students
per academic year
are expected to
enroll?

35

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

This is typically the cap on enrollment for 300 level courses in our department that requires a writing component.

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

Are you seeking Colonnade approval for this course? Yes

Colonnade Programs Connections

Connections: Course Categories Social & Cultural

Colonnade Proposal [PSYS357 Colonnade_updated_9924.docx](#)

Syllabus [PSYS 357_Sample Class Syllabus_updated.docx](#)

Colonnade Learning Outcomes

#	Colonnade Learning Outcomes
1	Examine diverse values that form civically-engaged informed members of society.
2	Analyze the development of self in relation to others in society.
3	Evaluate solutions to real-world socio-cultural problems.

Student Learning Outcomes

#	Student Learning Outcomes
1	Demonstrate an understanding of basic psychological principles and themes across major fields of psychological science.
2	Define and apply key psychological concepts, terms, and theories.
3	Evaluate accuracies of portrayals of psychological principles and themes in film.
4	Develop an appreciation for film as a medium to communicate psychological science and an awareness of the impact of film on society.

Content outline

#	Topic
1	Class Introduction and Overview
2	Cognitive Science and Neuroscience: Learning and Motivation
3	Cognitive Science and Neuroscience: Attention and Memory
4	Cognitive Science and Neuroscience: Emotion

#	Topic
5	Developmental Science: Childhood/Adolescence
6	Developmental Science: Adulthood
7	Developmental Science: Aging
8	Clinical Psychological Science: Mental Health
9	Clinical Psychological Science: Mood Disorders
10	Clinical Psychological Science: Anxiety Disorders
11	Clinical Psychological Science: Personality Disorders
12	Applied and Social Psychological Science: Industrial/Organizational Psychology
13	Applied and Social Psychological Science: Social Psychology

Student

expectations and requirements

- Quizzes: There will be a quiz for each topic of the syllabus
- In-Class Activities: Throughout the semester, there will be unannounced activities that are done in class for a grade.
- Reflection Assignments: There will be 4 reflection assignments pertaining to critically evaluating information from the four sections of the course (Section 1: Cognitive Science and Neuroscience, Section 2: Developmental Science, Section 3: Clinical Psychological Science, Section 4: Applied and Social Psychological Science)

Tentative texts and course materials

List of Films/Corresponding Readings:

- The Shawshank Redemption (1994)/Harmon-Jones et al. (2024). Does effort increase or decrease reward valuation? Considerations from cognitive dissonance theory. *Psychophysiology*, 61, e14536.
- Memento (2000)/Squire, L. R. (2009). The legacy of patient H. M. for neuroscience. *Neuron*, 61, 6-9
- Inside Out (2015)/Keltner, D., & Ekman, P. (2015). The Science of 'Inside Out.' *New York Times*, 3.
- Stand by Me (1986)/Branje, S., de Moor, E. L., Spitzer, J., & Becht, A. I. (2021). Dynamics of identity development in adolescence: A decade in review. *Journal of Research on Adolescence*, 31(4), 908-927.
- The Royal Tenenbaums (2001)/Cabrera, N. J. (2019). Father involvement, father-child relationship, and attachment in the early years, *Attachment & Human Development*. doi: 10.1080/14616734.2019.1589070
- Grumpy Old Men (1993)/Diehl, M., Smyer, M. A., & Mehrotra, C. M. (2020). Optimizing aging: A call for a new narrative. *American Psychologist*, 75 (4), 577-589.
- One Flew Over the Cuckoo's Nest (1975)/Rosenhan, D. L. (1974). On being sane in insane places. *Clinical Social Work Journal*, 2(4), 237-256.
- Silver Lining's Playbook (2012)/Proudfoot, J.G., Parker, G. B., Benoit, M., Manicavasagar, V., Smith, M., & Gayed, A. (2009). What happens after diagnosis? Understanding the experiences of patients with newly-diagnosed bipolar disorder. *Health Expectations*, 12(2), 120-129.
- Ordinary People (1980)/Miller, F. C. (1999). Using the movie Ordinary People to teach psychodynamic psychotherapy with adolescents. *Academic Psychiatry*, 23(3), 174-179.
- Taxi Driver (1976)/Widiger et al. (2019). Personality in a hierarchical model of psychopathology. *Clinical Psychological Science*, 7, 77-92.

-Office Space (1999)/Jones (2009). Getting even with one's supervisor and one's organization: relationships among types of injustice, desires for revenge, and counterproductive work behaviors. *Journal of Organizational Behavior*, 30, 525-542.

-12 Angry Men (1957)/Sunstein, C. R. (2007). Group polarization and 12 angry men. *Negotiation Journal*, 23 (4), 443-447.

Special equipment,
materials, or library
resources needed

- Classroom with blu-ray/DVD player
- Student access to films (via library, netflix account)
- Library resources for articles

Additional
information

Supporting
documentation

Reviewer Comments

Program Change Request

Date Submitted: 10/11/24 6:07 pm

Viewing: **434 : Neuroscience, Minor**

Last approved: 05/23/24 2:34 pm

Last edit: 10/11/24 6:07 pm

Changes proposed by: and30774

Catalog Pages
Using this Program
[Neuroscience, Minor \(434\)](#)

Proposed Action

Active

Contact Person

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

Term of Implementation: 2025-2026

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. 10/28/24 12:51 pm
Amy Brausch
(amy.brausch):
Approved for PSYS Approval
2. 11/01/24 9:58 am
Stuart Burris
(stuart.burris):
Approved for SC Dean

History

1. Apr 29, 2022 by
Andrew Mienaltowski
(andrew.mienaltowski)
2. May 23, 2024 by
Jessica Dorris
(jessica.dorris)

Program Reference Number	434
Review Type	Full Review
Academic Level	Undergraduate
Program Type	Minor
Department	Psychological Sciences
College	Science and Engineering
Program Name (eg. Biology)	Neuroscience, Minor
CIP Code	30.1001 - Biopsychology.
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

Curriculum Requirements (Catalog field: Program Requirements)

Program Requirements (30) (~~24~~ hours)

The minor in Neuroscience offers students the opportunity to study the intersection of brain and behavior in a manner that incorporates tools and perspectives from the psychological and biological sciences, and related disciplines. This minor will be an attractive option for students who are:

Planning to pursue advanced study in any of several fields related to neuroscience, including psychology, biology, medicine, counseling, or social work or

Seeking relevant training for jobs related to the assessment, rehabilitation, and treatment of brain damage, brain diseases, and addiction.

Choose one

3

PSYS 100

Introduction to Psychology

or PSY 100

Introduction to Psychology

PSYS 160

Introduction to Biopsychology

Choose one pair of research methods courses

4

PSYS 210

Research Methods in Psychology

& PSYS 211

and Research Methods in Psychology Laboratory

<u>or PSY 210</u> <u>& PSY 211</u>	<u>Research Methods in Psychology</u> <u>and Research Methods in Psychology Laboratory</u>	
<u>Biology Prerequisite Core</u>		<u>8</u>
<u>BIOL 120</u> <u>& BIOL 121</u>	<u>Biological Concepts: Cells Metabolism and Genetics</u> <u>and Biological Concepts: Cells, Metabolism, and Genetics Lab</u>	
<u>BIOL 122</u> <u>& BIOL 123</u>	<u>Biological Concepts: Evolution, Diversity, and Ecology</u> <u>and Biological Concepts: Evolution, Diversity, and Ecology Lab</u>	
<u>Upper level minor core (choose two)</u>		<u>6</u>
<u>PSYS 360</u>	Behavioral Neuroscience	
<u>BIOL 335</u>	Neurobiology	
Select 15 credit hours in electives from the following courses:		15
<u>PHIL 332</u>	Philosophy of Mind: Minds and Machines	
<u>NEUR 310</u>	<u>Research Techniques of Neuroscience</u>	
<u>Select 9 credit hours in electives from the following courses: (Must include at least 3 PSYS hours and 3 BIOL hours)</u>		<u>9</u>
<u>PSYS 331</u>	Principles of Human and Animal Learning	
<u>PSYS 333</u>	Cognitive Psychology	
<u>PSYS 363</u>	Sensory and Perceptual Systems	
<u>PSYS 462</u>	Fundamentals of Cognitive Neuroscience	
<u>PSYS 463</u>	Evolutionary Psychology	
<u>PSYS 465</u>	Psychopharmacology	
<u>PSYS 482</u>	Psychology of Sexuality	
<u>BIOL 316</u>	<u>Evolution: Theory and Process</u>	
<u>BIOL 319</u>	Introduction to Molecular and Cell Biology	
<u>BIOL 327</u>	Genetics	
<u>BIOL 334</u>	Animal Behavior	
<u>BIOL/CHEM 446</u>	Biochemistry I	
<u>BIOL 464</u>	Endocrinology	
<u>NEUR 401</u>	<u>Cellular and Molecular Neuroscience</u>	
<u>NEUR 402</u>	<u>Systems Neuroscience</u>	
Total Hours		30

Note: ~~Students must choose at least 1 course from Biology and Psychological Sciences.~~ Some ~~Students must take PSYS 100 or PSYS 160 and BIOL 120/ BIOL 121 prior to beginning their coursework in the minor (some~~ courses available for the minor may have additional prerequisites. ~~prerequisites).~~

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?
Biology	Prior to 2015-2016 undergrad catalog
Chemistry	Prior to 2015-2016 undergrad catalog
Philosophy	Prior to 2015-2016 undergrad catalog

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	Understand basic concepts in biology and psychology that serve as the foundation of the scientific study of brain, mind, and behavior	Plan not needed for minor
SLO 2	Understand the organization of the nervous system and its relation to mind and behavior	Plan not needed for minor
SLO 3	Appreciate the interdisciplinary nature of the field of neuroscience	Plan not needed for minor
SLO 4	Use critical thinking skills to judge the scientific merit of original neuroscience research and its representation in the media	Plan not needed for minor
SLO 5	Communicate effectively about neuroscience in written and oral form	Plan not needed for minor

Library Resources

Attach library resources

Rationale for the program proposal?

The proposed revisions will increase the number of hours in the minor from 21 to 30 by balancing the addition of prerequisite 100/200 level PSYS and BIOL courses not included in the current minor but still necessary for its completion, and by reducing upper level electives from 15 to 9 hours. These revisions maintain the upper-level course 50% rule.

The modification to the 6-hour core upper-level neuroscience requirement will allow students to choose two of four courses instead of being required to take 2 specific courses. Expanding the offerings to satisfy the upper-level core maintains the overarching theme of neuroscience training but reduces the specificity relative to the neuroscience major.

Changes to the restricted electives include: removing courses that are no longer offered or not taught frequently, adding BIOL 316 that maintains evolution-specific content, and incorporating new NEUR courses that will be taught in conjunction with the neuroscience major.

The minor is intended for students who do not have space in their degree program to complete the neuroscience major but have an interest in neuroscience. The proposed revisions continue to support the listed student learning outcomes for the minor.

Revisions including the additional 100-level BIOL courses and addition of BIOL 316 tentatively supported by Biology on 5/7/2024. Psychology supported revision adding PSY/PSYS 210/211 combination on 8/21/2024. Revision moving PHIL 332 upper-level core supported by Dr. Elkind on 7/17/2024.

Additional
Attachments

Additional information or attachments

Reviewer Comments

Program Change Request

Date Submitted: 10/11/24 6:05 pm

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

Last approved: 06/17/24 8:14 am

Last edit: 10/11/24 6:05 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. 10/28/24 12:51 pm
Amy Brausch
(amy.brausch):
Approved for PSYS Approval
2. 11/01/24 9:58 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)

Active

Contact Person

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

Term of Implementation 2025-2026

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 (PAPS)
- Biobehavioral Psychology (PBBP)
- Clinical Psychological Science (PCPS)
- Cognitive Psychology (PCGP)
- Developmental Science (PDVS)
- ~~Neuroscience (PNEU) (Available to 747E Majors only)~~ ~~Social Psychology (PSOP)~~ Quantitative Psychology (PSQP)
- (Available to 747E Majors only)
- General (PGEN)

CIP Code

42.2799 - Research and Experimental Psychology, Other.

Will this program lead to teacher certification? No

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

No

Catalog Content

Program Overview (Catalog field: Overview tab)

The Department of Psychological Sciences offers programs designed for students who are interested in a science-oriented degree that will prepare them for graduate study in psychology, neuroscience, 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) ~~(37-58 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 ~~25~~ to 28 credit hours from the following categories: Foundations of Psychology, Developmental Processes, Learning and Cognition, Individual Differences and Social Processes, Biological Bases of Behavior and Mental Processes, Research Methods and Statistics, and Capstone Experience. ~~Integrative Science in Psychology.~~

To complete the ~~Concentration requirement, students will select courses from one or two of the six thematic concentrations or they may design a general concentration (subject to approval by their advisor).~~ Laboratory Experience component, students will complete one PSYS lab course or one PSYS lecture / lab course at the 300-level or above.

To complete ~~Students in~~ the Concentration requirement, students in the non-extended option will (a) complete ~~complete~~ 12 credit hours from one thematic concentration (applied & social psychological science, biobehavioral psychology, clinical psychological science, cognitive psychology, concentration, or developmental science) or (b), if in the general concentration, complete 12 credit ~~design a custom concentration by selecting 12-24~~ hours of upper-level ~~from~~ PSYS or PSY courses found in any of the thematic concentrations not used to study themes in psychological science more broadly. ~~satisfy their Core requirement.~~ 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 ~~from two concentrations or 24—25~~ 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). ~~the quantitative psychology concentration.~~ ~~The interdisciplinary neuroscience concentration is a single concentration option for students.~~ Students who are in the quantitative ~~this~~ concentration complete 56-58 hours 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. ~~with an emphasis on neuroscience.~~

Students must complete either

~~Students who select this concentration cannot minor in Neuroscience. Students must maintain a minimum 2.50 GPA both overall and in the major. Either MATH 116 and MATH 117, or MATH 118 or higher is required; MATH 183 is recommended.~~

Students who select the extended option with the quantitative psychology concentration must complete MATH 136.

~~To satisfy the math requirement for the major, students in the neuroscience concentration may also complete MATH136.~~

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. Students in the neuroscience concentration of the Psychological Science major may count no more than 3 credits of PSYS 490 towards the major. PSYS 300 is recommended to meet the Colonnade: Writing in the Disciplines requirement and can be used to but does not 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. requirements:

The Psychological Science major includes laboratory experiences. In addition to completing a laboratory in research methods, students in the non-extended option of the major and in the extended option of the major (including the quantitative concentration) complete one additional laboratory experience.

~~experience.~~

Approved Shared Content from /shared/undergraduate-major-requirements/
Last Approved: Jul 3, 2024 1:10pm
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>.

~~Students in the neuroscience concentration complete two additional psychological science laboratory experiences in addition to the research methods laboratory.~~ Applied & Social Psychological Science Concentration

This thematic concentration emphasizes applying psychological science to investigate ~~focuses on~~ how social situations affect behavior and to explore the role of social factors ~~psychological science can be used to solve real-world problems in real-world problems.~~ business, sports, or human engineering domains.

Core Courses

<u>PSYS 100</u>	Introduction to Psychology	3
or <u>PSYS 160</u>	Introduction to Biopsychology	
<u>PSYS 220</u>	Introduction to Lifespan Developmental Psychology	3
or <u>PSYS 321</u>	Child Developmental Psychology	
<u>PSYS 333</u>	<u>Cognitive Psychology</u>	3

<u>PSYS 331</u>	<u>Principles of Human and Animal Learning</u>	<u>3</u>
<u>or PSYS 333</u>	<u>Cognitive Psychology</u>	
<u>PSYS 350</u>	Social Psychology	3
<u>PSYS 360</u>	Behavioral Neuroscience	3
or <u>PSYS 363</u>	Sensory and Perceptual Systems	
PSYS 363	Sensory and Perceptual Systems	
<u>PSYS 210</u> & <u>PSYS 211</u>	Research Methods in Psychology and Research Methods in Psychology Laboratory	4
or <u>PSY 210</u> & <u>PSY 211</u>	Research Methods in Psychology and Research Methods in Psychology Laboratory	
PSYS-211	Research Methods in Psychology Laboratory	4
<u>PSYS 313</u>	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
Select one of the following:		3
<u>PSYS 481</u>	History of Psychology	
<u>PSYS 490</u>	Independent Study in Psychological Sciences	
<u>PSYS 499</u>	<u>Senior Seminar in Psychology</u>	
Concentration Courses		
Required Course:		
<u>PSYS 413</u>	Psychological Measurement	3
Select 9 hours from the following:		9
<u>PSYS 346 THE PSYCHOLOGY OF FACING DEATH AND DYING</u>	<u>Course PSYS 346 THE PSYCHOLOGY OF FACING DEATH AND DYING Not Found</u>	
<u>PSYS 352 HEALTH PSYCHOLOGY: THE MIND- BODY CONNECTION</u>	<u>Course PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION Not Found</u>	
<u>PSYS 353</u>	Psychology of Prejudice and Stereotyping	
PSYS 360	Behavioral Neuroscience	

or PSYS 363	Sensory and Perceptual Systems
<u>PSYS 357 PSYCHOLOGY AND FILM</u>	<u>Course PSYS 357 PSYCHOLOGY AND FILM Not Found</u>
<u>PSYS 370</u>	Industrial / Organizational Psychology
<u>PSYS 415</u>	Programming for Social Sciences
<u>PSYS 433</u>	Judgment and Decision Making
<u>PSYS 440</u>	<u>Abnormal Psychology</u>
<u>PSYS 450</u>	Psychology of Personality
<u>PSYS 451</u>	<u>Psychology of Religion</u>
<u>PSYS 453</u>	<u>Psychology of Women</u>
<u>PSYS 473</u>	Training in Business and Industry
<u>PSYS 484</u>	History of Psychology
<u>PSYS 482</u>	<u>Psychology of Sexuality</u>
<u>PSYS 490</u>	Independent Study in Psychological Sciences
<u>PSYS 499</u>	Senior Seminar in Psychology
<u>PSY 340</u>	Sport Psychology
<u>PSY 355</u>	Issues in Cross-Cultural Psychology
<u>PSY 412</u>	Psychology of Motivation and Emotion
<u>PSY 470</u>	Psychology and Law
Laboratory Experience	
Select one course from the following:	4-3
<u>Select one course from the following: (may use PSYS 413 from above concentration courses to satisfy requirement)</u>	<u>0-3</u>
<u>PSYS 322</u>	Laboratory in Developmental Psychology
<u>PSYS 332</u>	Laboratory in Human and Animal Learning
<u>PSYS 334</u>	Laboratory in Cognition
<u>PSYS 365</u>	Laboratory in Behavioral Neuroscience
<u>PSYS 413</u>	Psychological Measurement
<u>PSYS 415</u>	<u>Programming for Social Sciences</u>

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 211	Research Methods in Psychology Laboratory	4
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
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	Course PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION Not Found	
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 211	Research Methods in Psychology Laboratory	4

<u>PSYS 313</u>	Statistics in Psychology	3
Select one of the following:		3
<u>PSYS 481</u>	History of Psychology	
<u>PSYS 490</u>	Independent Study in Psychological Sciences	
<u>PSYS 499</u>	Senior Seminar in Psychology	
Concentration Courses		
Select 12 hours from the following:		12
<u>PSYS 346 THE PSYCHOLOGY OF FACING DEATH AND DYING</u>	<u>Course PSYS 346 THE PSYCHOLOGY OF FACING DEATH AND DYING Not Found</u>	
<u>PSYS 350</u>	Social Psychology	
<u>PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION</u>	<u>Course PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION Not Found</u>	
<u>PSYS 353</u>	Psychology of Prejudice and Stereotyping	
<u>PSYS 357 PSYCHOLOGY AND FILM</u>	<u>Course PSYS 357 PSYCHOLOGY AND FILM Not Found</u>	
<u>PSYS 360</u>	Behavioral Neuroscience	
<u>PSYS 363</u>	Sensory and Perceptual Systems	
Select one of the following:		3
<u>PSYS 380</u>	Psychology and Science-Fiction	
<u>PSYS 413</u>	Psychological Measurement	
<u>PSYS 423</u>	Psychology of Adult Life and Aging	
<u>PSYS 425</u>	Developmental Psychopathology	
<u>PSYS 442</u>	Psychology of Suicide and Self-Injury	
<u>PSYS 444</u>	Psychology of Substance Use Disorders	
<u>PSYS 450</u>	Psychology of Personality	
<u>PSYS 451</u>	Psychology of Religion	
<u>PSYS 453</u>	Psychology of Women	
<u>PSYS 462</u>	Fundamentals of Cognitive Neuroscience	
<u>PSYS 465</u>	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:

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 214	Research Methods in Psychology Laboratory	4
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
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 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 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 211	Research Methods in Psychology Laboratory	4
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
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	Course PSYS 346 THE PSYCHOLOGY OF FACING DEATH AND DYING Not Found
PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION	Course PSYS 352 HEALTH PSYCHOLOGY: THE MIND-BODY CONNECTION Not Found
PSYS 357 PSYCHOLOGY AND FILM	Course PSYS 357 PSYCHOLOGY AND FILM Not Found
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 Students in the neuroscience concentration offers students the opportunity complete two additional psychological science laboratory experiences in addition to more broadly study themes in psychological science in general. the research methods laboratory.

Core Courses		
PSYS 100	Introduction to Psychology	3
or PSYS 160	Introduction to Biopsychology	
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1
PSYS 313	Statistics in Psychology	3
or BIOL 382	Introductory Biostatistics	
PSYS 220	Introduction to Lifespan Developmental Psychology	3
or PSYS 321	Child Developmental Psychology	
PSYS 350	Social Psychology	3
or PSYS 440	Abnormal Psychology	
PSYS 331	Principles of Human and Animal Learning	3
PSYS 360	Behavioral Neuroscience	3
Choose one – Integrative Science in Psychology (3 credits)		3
PSYS 380	Psychology and Science Fiction	
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
Upper Level PSYS concentration requirements		
PSYS 333	Cognitive Psychology	3
PSYS 363	Sensory and Perceptual Systems	3
PSYS 465	Psychopharmacology	3
Additional PSYS electives		3
PSYS 431	Psychology of Language	
PSYS 444	Psychology of Substance Use Disorders	
PSYS 462	Fundamentals of Cognitive Neuroscience	
PSYS 463	Evolutionary Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
Lab experiences (two labs; 2-4 credits)		2-4
PSYS 161	Introduction to Biopsychology Laboratory	
PSYS 332	Laboratory in Human and Animal Learning	
PSYS 334	Laboratory in Cognition	

PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 415	Programming for Social Sciences	
Biology core		
BIOL 120	Biological Concepts: Cells Metabolism and Genetics	3
BIOL 121	Biological Concepts: Cells, Metabolism, and Genetics Lab	4
BIOL 122	Biological Concepts: Evolution, Diversity, and Ecology	3
BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology Lab	4
BIOL 335	Neurobiology	3
Additional Restricted electives		6
BIOL 312	Bioinformatics	
BIOL 316	Evolution: Theory and Process	
BIOL 319	Introduction to Molecular and Cell Biology	
BIOL 327	Genetics	
BIOL 334	Animal Behavior	
BIOL 464	Endocrinology	
PHYS 231	Introduction to Physics and Biophysics I	
PHYS 232	Laboratory for Physics and Biophysics I	
PHYS 233	Laboratory for Physics and Biophysics II	
PHYS 332	Introduction to Physics and Biophysics II	
Total Hours		0
Core Courses		
<u>PSYS 100</u>	Introduction to Psychology	3
or <u>PSYS 160</u>	Introduction to Biopsychology	
<u>PSYS 220</u>	Introduction to Lifespan Developmental Psychology	3
or <u>PSYS 321</u>	Child Developmental Psychology	
<u>PSYS 331</u>	Principles of Human and Animal Learning	3
or <u>PSYS 333</u>	Cognitive Psychology	
<u>PSYS 350</u>	Social Psychology	3
or <u>PSYS 440</u>	Abnormal Psychology	
<u>PSYS 360</u>	Behavioral Neuroscience	3
or <u>PSYS 363</u>	Sensory and Perceptual Systems	
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 211	Research Methods in Psychology Laboratory	4
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
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 12-24 hours of electives from PSYS courses not used to satisfy Core requirements		12-24
<u>Select 12 hours of electives from PSYS courses not used to satisfy Core requirements or from upper-level PSYS or PSY courses in the thematic concentrations, including PSYS 300</u>		<u>12</u>
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

~~**Social Psychology Concentration** This concentration emphasizes the study of how social situations affect behavior. **General Concentration** This concentration allows students, with help from their advisor, to design an individualized theme. **Neuroscience Concentration** This interdisciplinary concentration emphasizes neuroscience and includes courses investigating the brain from the level of cellular biology to higher order psychological systems. This concentration requires more~~

~~than 48 hours, so students do not need a minor or second major. Also, students in this concentration do not select another concentration within the Psychological Science Major. Note that students who intend on completing BIOL 319 as an additional restricted elective in this concentration will first need to earn a C or higher in GHEM 120 and GHEM 121. GHEM 120 and GHEM 121 are not part of the Neuroscience concentration in the Psychological Science Major.~~

Quantitative Psychology Concentration

Core Courses

PSYS 100	Introduction to Psychology	3
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or PSYS 160	Introduction to Biopsychology	
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PSYS 220	Introduction to Lifespan Developmental Psychology	3
----------	---	---

or PSYS 324	Child Developmental Psychology	
-------------	--------------------------------	--

PSYS 334	Principles of Human and Animal Learning	3
----------	---	---

or PSYS 333	Cognitive Psychology	
-------------	----------------------	--

PSYS 350	Social Psychology	3
----------	-------------------	---

Select one of the following:		3
------------------------------	--	---

PSYS 360	Behavioral Neuroscience	
----------	-------------------------	--

PSYS 363	Sensory and Perceptual Systems	
----------	--------------------------------	--

PSYS 210	Research Methods in Psychology	3
----------	--------------------------------	---

PSYS 214	Research Methods in Psychology Laboratory	4
----------	---	---

PSYS 313	Statistics in Psychology	3
----------	--------------------------	---

Select one of the following:		3
------------------------------	--	---

PSYS 380	Psychology and Science Fiction	
----------	--------------------------------	--

PSYS 484	History of Psychology	
----------	-----------------------	--

PSYS 490	Independent Study in Psychological Sciences	
----------	---	--

Concentration Courses

PSYS 413	Psychological Measurement	
----------	---------------------------	--

Select 9 hours from the following:		9
------------------------------------	--	---

PSYS 353	Psychology of Prejudice and Stereotyping	
----------	--	--

PSYS 433	Judgment and Decision Making	
----------	------------------------------	--

PSYS 440	Abnormal Psychology	
----------	---------------------	--

PSYS 450	Psychology of Personality	
PSYS 451	Psychology of Religion	
PSYS 453	Psychology of Women	
PSYS 463	Evolutionary Psychology	
PSYS 482	Psychology of Sexuality	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	Senior Seminar in Psychology	
PSY 412	Psychology of Motivation and Emotion	
Laboratory Experience		1-3
PSYS 322	Laboratory in Developmental Psychology	
PSYS 332	Laboratory in Human and Animal Learning	
PSYS 334	Laboratory in Cognition	
PSYS 365	Laboratory in Behavioral Neuroscience	
PSYS 413	Psychological Measurement	
PSYS 415	Programming for Social Sciences	
Total Hours		0

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

<u>PSYS 100</u>	Introduction to Psychology	3
or <u>PSYS 160</u>	Introduction to Biopsychology	
<u>PSYS 220</u>	Introduction to Lifespan Developmental Psychology	3
or <u>PSYS 321</u>	Child Developmental Psychology	
<u>PSYS 331</u>	Principles of Human and Animal Learning	3
or <u>PSYS 333</u>	Cognitive Psychology	
<u>PSYS 350</u>	Social Psychology	3
or <u>PSYS 440</u>	Abnormal Psychology	
<u>PSYS 360</u>	Behavioral Neuroscience	3
or <u>PSYS 363</u>	Sensory and Perceptual Systems	
<u>PSYS 363</u>	Sensory and Perceptual Systems	
<u>PSYS 210</u> & <u>PSYS 211</u>	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 214	Research Methods in Psychology Laboratory	4
PSYS 313	Statistics in Psychology	3
Select one of the following:		3
PSYS 380	Psychology and Science Fiction	
Select one of the following:		3
PSYS 481	History of Psychology	
PSYS 490	Independent Study in Psychological Sciences	
PSYS 499	<u>Senior Seminar in Psychology</u>	
Concentration Courses		
Select one of the following:		3-4
CS 146	Introduction to Programming	3
or CS 170	Problem Solving and Programming	
or CS 180	Computer Science I	
CS 170	Problem Solving and Programming	
CS 180	Computer Science I	
STAT 301	Introductory Probability and Applied Statistics	3
STAT 330	Introduction to Statistical Software	3
STAT 401	Regression Analysis	3
or STAT 402	Experimental Design	
PSYS 413	Psychological Measurement	3
Select 9 PSYS upper-level elective hours selected in consultation with an advisor. Can include PSYS 300 .		9
Laboratory Experience		
<u>Select one course from the following: (may use PSYS 413 from above concentration courses to satisfy requirement)</u>		<u>0-3</u>
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 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
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First 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
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

First Year

Fall	Hours	Spring	Hours
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

	List all student learning outcomes of the program.	Measurement Plan
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	<u>Reflect on application of experience in major to future career or educational training</u> Integrate knowledge gained in complementary disciplines of psychology (for students in 747E only)	Students complete open-ended instrument in which they are asked to <u>reflect on connections between training</u> describe at least two ways that theories or research findings in <u>major and future directions in the profession.</u> one discipline/core of psychology impacts or interacts with another (e.g., concentration). 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

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

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

Library Resources

Attach library
resources

[CourseAlignment.docx](#)

Rationale for the program proposal?

In AY 23-24, the Psychological Science underwent Academic Program Review. As a result of this review and additional discussion in the unit, the proposed changes are being put forward:

(1) The requirement of a 2.5 GPA in the major is being removed to place the major's requirements in line with university guidelines for major GPA.

(2) The structure of the two-concentration form of the extended option of the major (747E) is being revised so that students will choose one concentration and the remaining 12 hours that extend the major will be fulfilled with upper-level PSYS/PSY courses from the remaining thematic concentrations. This revision will simplify advising and reduce pressure on students scheduling classes and possibly facilitate graduation.

(3) The "integrative science in psychology" component of the major is being changed to capstone experience and will add PSYS 499, a senior seminar course. The collection of options for this degree requirement build on students' experiences in their courses to incorporate professional development and reflection on careers and future training after graduation. PSYS 499 is being revised simultaneously to add a careers-oriented learning outcome. A SLO for the major (SLO5) is being revised as well so that the annual assurance of student learning outcomes for the major will include an open-ended item about students connecting their experience in the major to future career and educational training directions. The items for this new outcome and rubric to score assessment items attached.

(4) The Applied Psychological Science and Social Psychology concentrations are being merged into the Applied & Social Psychological Science concentration. This stems from a recommendation from the APR to consider merging/reducing concentrations that share thematic connections. The merged concentration will accommodate more student choice for meeting concentration requirements.

(5) The neuroscience concentration is being suspended from the major. This concentration was originally developed to give WKU students an option for studying neuroscience within a major program. WKU now has a Neuroscience major to serve this purpose.

(6) Other revisions proposed include (a) the addition PSYS 300 to sections of the major where students satisfy major requirements with upper-level PSYS courses, and (b) a clean-up of language within the CourseLeaf interface to standardize communication of student options within each concentration (e.g., order of segments, use of course sequences, and the "or" feature) where appropriate.

(7) New courses being proposed by the department have also been incorporated into the relevant concentrations. These course include PSYS 346 The Psychology of Facing Death and Dying, PSYS 352 Health Psychology: The Mind-Body Connection, and PSYS 357 Psychology and Film.

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

Program Change Request

New Program Proposal

Date Submitted: 10/11/24 10:56 pm

Viewing: : **User Experience**

Last edit: 10/23/24 2:08 pm

Changes proposed by: krs63240

Proposed Action

In Workflow

1. ART Approval
2. AR Dean
3. AR Curriculum Committee
4. SC Curriculum Committee
5. SC Dean
6. Undergraduate Curriculum Committee
7. University Senate
8. Provost
9. Board of Regents
10. CPE
11. Program Inventory

Approval Path

1. 10/11/24 10:56 pm
Kristina Arnold
(kristina.arnold):
Approved for ART Approval
2. 10/16/24 3:38 pm
Merrall Price
(merrall.price):
Approved for AR Dean
3. 10/23/24 2:09 pm
Merrall Price
(merrall.price):
Approved for AR Curriculum Committee

Active

Contact Person

Name	Email	Phone
Mark Simpson	mark.simpson@wku.edu	270-745-6568

Name	Email	Phone
Leah Moss	leah.moss@wku.edu	270-745-6568
Michael Galloway	jeffrey.galloway@wku.edu	270-745-6568

Term of Implementation 2025-2026

Academic Level Undergraduate

Program Type Major

Degree Types Bachelor of Science

Department Art

College Arts & Letters

Was your Notification of Intent (submitted to CPE by the Provost's Office) approved? No

Program Name (eg. Biology) User Experience

Will this program have concentrations? No

CIP Code 11.0105 - Human-Centered Technology Design.

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

No

Catalog Content

Program Overview (Catalog field: Overview tab)

In our modern tech-driven world, the significance of User Experience (UX) cannot be emphasized enough. It encompasses the integration of human insights into the process of designing, researching, and creating technological interfaces. UX delves into various disciplines including design, human-computer interaction, learning, cognitive sciences, perception, product design, user-centered design, and usability. UX inherently bridges multiple fields, blending the strengths of Art & Design with Computer Science to offer a comprehensive UX education. Through this interdisciplinary approach, students gain expertise not only in creating visually appealing designs but also in developing practical and user-centric technological solutions.

Program Requirements (57 Hours)

Foundational Courses

Computer Science Foundation Courses

MATH 117	Trigonometry	3
CS 180	Computer Science I	4
CS 290	Computer Science II	4

Psychological Sciences Foundation Courses

PSYS 100	Introduction to Psychology	3
PSYS 210	Research Methods in Psychology	3
PSYS 211	Research Methods in Psychology Laboratory	1

UX Foundation Courses

ART 243	Digital Media	3
UX 220	Introduction to User Experience Design	3

Advanced Courses

Advanced Computer Science Courses

CS 331	Data Structures	3
CS 351	Database Management Systems I	3
CS 360	Software Engineering I	3

Advanced Psychological Science Courses

Select one of the following:

PSYS 333	Cognitive Psychology	3
or PSYS 350	Social Psychology	
or PSYS 363	Sensory and Perceptual Systems	
or PSYS 433	Judgment and Decision Making	

Advanced UX Courses

UX 310	Course UX 310 Not Found	3
UX 330	User Interface Design	3
UX 340	Introduction to Developing and Prototyping for Interactive Design	3
UX 400	User Experience Advanced Studio I	3
UX 430	Advanced User Interface Design	3
UX 440	Advanced Developing and Testing for Interactive Design	3

Capstone Course

[UX 450](#) User Experience Advanced Studio II 3

Total Hours 57

4-Year Plan

First Year

Fall Hours

[CS 180](#) 4

[MATH 117](#) 3

[COMM 145](#) 3

[PSYS 100](#) 3

[ART 243](#) 3

16

Total Hours 16

First Year

Spring Hours

[CS 290](#) 4

[UX 220](#) 3

[HIST 101](#) or [HIST 102](#) 3

Colonnade - Natural Science with Lab 3

[ENG 100](#) 3

16

Total Hours 16

Second Year

Fall Hours

[CS 331](#) 3

UX 310 - Future Design, New Course 3

[ENG 200](#) 3

Colonnade - Natural and Physical Sciences 3

Colonnade - Arts & Humanities 3

15

Total Hours 15

Second Year

Spring Hours

[CS 351](#) 3

[UX 330](#) 3

[PSYS 210](#) 3

[PSYS 211](#) 1

Colonnade - Systems 3

General Elective 3

16

Total Hours 16

Third Year

Fall Hours

[CS 360](#) 3

[UX 340](#) 3

[ENG 300](#) 3

Third Year

Fall	Hours
Colonnade - Local to Global	3
General Elective	3
	15

Total Hours 15

Third Year

Spring	Hours
<u>UX 400</u>	3
<u>UX 430</u>	3
Colonnade - Social and Cultural	3
General Elective	3
General Elective	3
	15

Total Hours 15

Fourth Year

Fall	Hours
<u>UX 440</u>	3
Upper-Level PSYS Course	3
General Elective	3
General Elective	3
General Elective	3
	15

Total Hours 15

Fourth Year

Spring	Hours
<u>UX 450</u>	3
General Elective	3
General Elective	1
General Elective	3
General Elective	3
	13

Total Hours 13

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

Yes

Interdisciplinary
Departments

Secondary Departments
Computer Science (CS)

Does this program include courses from outside your department?

Yes

Outside Courses
Details

Who approved including these courses?	When were they approved?
Professor Stacy Wilson, SEAS Director (former)	Spring 2024

Who approved including these courses?	When were they approved?
Professor Guangming Xing, SEAS co-director and CS faculty	October 2024
Professor Amy Brausch, Acting Chair, Psychological Sciences	October 2024

Relation to Mission and Strategic Plan

Explain how the proposed program relates to the institutional mission and academic strategic plan.

WKU Mission and Strategic Plan

The BS in UX supports the WKU Mission to “prepare students of all backgrounds to be productive, engaged, and socially responsible citizen-leaders of a global society,” and these points of the WKU Strategic Plan:

- Our Students: Prepare students for a career and life in a global context
- Our Hill: Create a culture of innovation
- Our Community: Establish WKU as a regional lighthouse to provide resources, attract talent, and nurture intellectual capital in the communities we serve.

The proposed interdisciplinary UX BS program contributes to WKU’s mission and Strategic Plan by providing an innovative, evolving curriculum that prepares students for fulfilling careers in the expanding tech industry, enabling them to positively impact change in their communities, both large and small.

The UX BS will equip students with the skills necessary for a career in User Experience, a discipline that improves both digital and physical interactions, and enhances societal well-being. Students will learn practical, evolving skills applicable to multiple sectors (e.g., technology, design, health, education).

Additionally, this program bridges the creative and technical gap, preparing students for UX roles across diverse industries. It fosters interdisciplinary collaboration, allowing students to apply design thinking alongside technical skills like programming and data analysis, which are crucial in UX. As the innovative degree develops both creative and technical skillsets, it enhances employment outcomes for students, and positions the university as a forward-thinking institution. The focus on research, ethics, computer science, and cognitive science additionally prepares students to be socially responsible leaders in an increasingly digital world.

Offering a UX BS degree places WKU in line with growing trends in higher education and the tech industry, where demand for UX designers, developers, and researchers is increasing. The UX field is rapidly expanding, with demand for UX professionals expected to grow 13% faster than the average job growth rate over the next decade. By aligning with both creative (Art & Design) and technical (Computer Science) disciplines, the degree showcases WKU’s commitment to interdisciplinary, future-facing education.

Sources:

- Coursera on UX Certifications (Coursera).
- Springboard analysis on UX demand (Springboard).
- Career Outlook from Tufts University (Career Center | Tufts University).

Explain how the proposed program addresses the state's postsecondary education strategic agenda

Kentucky Strategic Agenda for Postsecondary Education

The BS in UX supports the Kentucky Strategic Agenda for Postsecondary Education “to raise the percentage of Kentuckians with a high-quality postsecondary degree or certificate” by providing an innovative program of high value to students to attract them to campus and postsecondary education.

User Experience is a high-demand field, with UX designers earning salaries between \$73,000 and \$110,000, depending on experience and location. Graduates with UX skills are equipped to work in roles like user researchers, interaction designers, digital developers, and usability analysts, making them versatile across industries. Employer demand makes the program attractive to both new students and professionals looking to upskill, bringing in more applicants in pursuit of a high-quality postsecondary degree.

This UX BS program emphasizes building a strong, interdisciplinary skillset, emphasizing both creative and technical skills, enhancing employment outcomes for students. Course delivery methodologies and outcomes produced are equally attractive reasons for students to pursue this degree.

Based on the applied-learning methodologies common to the included Art & Design and Computer Science courses, graduates from our program will be able to showcase work that integrates creativity with real-world application, helping them stand out in the job market. The emphasis on creating professional-level portfolio work will provide students with the assets they need for a successful job search upon graduation.

This hands-on approach ensures that students are well-prepared to enter a workforce where these skills are directly applicable to web design, app development, and digital marketing sectors.

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	Technical Proficiency: Students will create digital products that meet industry standard. (This includes applying UX modeling and design frameworks to address real user needs and	Measurement Instrument: portfolio website created in UX 450 (capstone course). Website serves as a digital product to be

	List all student learning outcomes of the program.	Measurement Plan
	behaviors, ensuring a comprehensive approach to product design and development.)	<p>assessed for proficiency based on the outcomes of access, innovation, function, and ethical responsibility.</p> <p>Work from all students in the capstone course (UX 450) will be assessed.</p>
SLO 2	Integrated Design: Students will demonstrate proficiency in integrating design principles with one or more programming languages. (This includes applying UX modeling and design frameworks to address real user needs and behaviors, ensuring a comprehensive approach to product design and development.	<p>Measurement Instrument: portfolio website created in UX 450 (capstone course).</p> <p>Website serves as a digital product to be assessed for mastery based on the outcomes of design integration with user-centered methodologies, front-end development, one programming language.</p> <p>Work from all students in the capstone course (UX 450) will be assessed.</p>
SLO 3	Research Capabilities: Students will conduct user experience research to evaluate design decisions. (This outcome emphasizes the importance of a deep understanding of the product development lifecycle, from ideation through deployment, as a context for applying research findings and analytics.)	<p>Measurement Instrument: Case Study completed in UX 450 (capstone course).</p> <p>Case study completed as first step in group project in UX 450 to be assessed.</p> <p>Work from all students in the capstone course (UX 450) will be assessed.</p>
SLO 4	Analytical Capabilities: Students will evaluate user experience research data to inform iterative design decisions. (This outcome emphasizes the importance of a deep understanding of the product development lifecycle, from ideation through deployment, as a context for applying research findings and analytics.)	<p>Measurement Instrument: Case Study completed in UX 450 (capstone course).</p> <p>Case study completed as first step in group project in UX 450 to be assessed for student's ability to analyze data and apply findings to recommend effective design decisions.</p> <p>Work from all students in the capstone course (UX 450) will be assessed.</p>
SLO 5	Collaborative Expertise and Professional Adaptability: Students will collaborate effectively in diverse teams to develop industry standard digital products.	<p>Measurement Instrument 1: Group Project completed in UX 450.</p> <p>Students will respond to original prompts and work as teams to create projects that function proficiently.</p> <p>All students in the capstone course (UX 450)</p>

	List all student learning outcomes of the program.	Measurement Plan
		<p>will participate in teams to create digital products. All products will be assessed.</p> <p>Measurement Instrument 2: CATME Peer Evaluations completed in UX 450.</p> <p>Students will be effective in all five areas that contribute to team success [Contributing to Team's Work; Interacting with Teammates; Keeping the Team on Track; Expecting Quality; Having Relevant Knowledge, Skills, and Abilities].</p> <p>All students in Capstone 450 will complete CATME instruments to assess peer and self behavior.</p>

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

Upload Assessment Plan [BS_UX_asl_template.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.)

UX is a new, emerging, and fast-developing discipline, with 150 academic programs globally, including those at the graduate (86 programs), undergraduate (62) and certificate (8) levels. 52 of these programs are in the US, with 18 of them at the undergraduate level. Currently, no program in Kentucky uses this CIP code; further, this will be the first UX degree offered in Kentucky.

Specify any distinctive qualities of the program.

We propose an interdisciplinary BS program in User Experience, shared between and co-hosted by two colleges at WKU: the Ogden College of Science and Engineering (OCSE) and the Potter College of Arts & Letters (PCAL). This program combines existing curriculum within the Bachelor of Fine Arts with a concentration in User Experience (Department of Art & Design, PCAL) and the Bachelor of Science in Computer Science (hosted in the School of Engineering and Applied Sciences, OCSE). Course modality will be face-to-face and include lectures, labs, and applied learning formats.

The curriculum will be crafted to integrate core principles of both disciplines. Foundational courses will include Design Fundamentals, Introduction to Programming, User-Centered Design, and Human-Computer Interaction. Advanced courses will delve into specialized topics such as Interactive Design, User Interface Design, Speculative Design, and Usability Testing & Evaluation. This program seeks to provide students with design thinking processes and agile methodologies applied to the design of digital products such as websites, dashboards, mobile apps, games, and more.

This combined curriculum presents a unique approach to programs within the discipline. As UX inherently bridges multiple fields, our proposed UX BS blends the strengths of current coursework in Art & Design with that in Computer Science to offer a comprehensive UX education. Through this interdisciplinary approach, students gain expertise not only in creating visually appealing designs but also in developing practical and user-centric technological solutions.

This proposed BS in UX degree has grown out of the now 5-year-old interdisciplinary partnership between the partner units of the School of Engineering and Applied Sciences (SEAS) and Art & Design, built around our shared Certificate in Game Design approved in 2020, that pairs programming courses in CS with animation courses from Art & Design; and the additional collaborative project of a student-focused, grant-funded XR (extended reality) Lab, begun in 2021. While the UX BS curriculum overlaps very little with the Game Design Certificate, the vision of combining strengths and coursework across our disciplines and bringing CS and Art & Design faculty and students together under one umbrella has proved very successful in building a pluralistic program.

Does the proposed program differ from existing programs in terms of curriculum, focus, objectives, etc.?

Yes

Please explain

This proposed degree is different from existing programs in that it is truly interdisciplinary. The degree is designed to meld the creative expertise of Art and Design with the technical capacity of Computer Science, producing graduates uniquely equipped for the demands of the modern UX industry. Students in this program will gain a comprehensive skill set, encompassing design thinking, user research methodologies, interface design, and programming. The curriculum will emphasize real-world application, providing opportunities for hands-on projects and internships. This approach ensures that graduates are both theoretically proficient and practically skilled, ready to enter the UX industry with a competitive edge.

This program represents a significant collaboration between the disciplines of Art and Design and Computer Science. Faculty from both fields will contribute to a curriculum that is both technically sound and creatively inspiring. This partnership will facilitate an educational environment where innovation and cross-disciplinary learning are the norms, an approach that is in line with current educational trends that understand the benefits of interdisciplinary learning.

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? Yes

Please explain

Currently, no program in Kentucky uses this CIP code; this will be the first UX degree offered in Kentucky.

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.

While there are no programs with this CIP code in Kentucky, there are a number of programs with related CIP codes at the community colleges. Specifically, we are reaching out to colleagues at Bluegrass Community and Technical College to discuss potential articulation (or 2:2) agreements with students from their Graphic Design and Library Technology program (an AS degree), and to the Computer and Information Technology program (which houses a Web Programmer certificate) at Elizabethtown Community and Technical College.

As a 57-hour major, we believe this program will be attractive to students interested in programs that combine design and technology who already have a two-year degree (60 hours) or some coursework that would apply to the major.

Describe student demand data for this program.

As an emerging program of study with no other programs in this CIP code, a proxy measurement for student demand can be workforce demand, which is high (see more information on workforce demand, below).

Additionally, we conducted a survey of students in our programs most likely to be interested in the new UX BS, sending the online survey to students in Art & Design and CS programs. We received 61 responses, of which 54% were CS majors, 40% had majors in Art & Design, and 17% had other majors (the survey allowed students to select for multiple majors).

Key takeaways from the survey included:

Q: Would you be interested in pursuing a BS in UX if it was available to you? – 84% said yes

Q: If it were available, would you switch your degree to a UX BS, or add the UX BS as a second degree? 58% would add UX BS as a second degree, 18% switch to UX BS, 24% neither.

Q: Had it been available to you, would you have majored in the UX BS? 62% said yes

Q: The two most appealing factors are the combination of CS + UX courses (68%) and the number of credit hours (53%)

Reasons students gave for adding the major included:

"it combines the thoughts and practice of computer science but the arts to be more creative, ultimately allowing for more fulfilling career"

"I enjoy front-end development and would love to be more qualified in design."

"I would like to take more classes in User Experience and I think adding a Bachelors of Science in would get more people outside of FAC interested in the degree."

"This seems like a blended program that would offer me the most well-rounded coursework and still give me a Bachelor of

Science."

Describe workforce needs and career outcomes for graduates of this program.

The UX BS degree equips students with practical, in-demand skills across various roles in the tech industry and graduates can expect to enter the workforce directly into a variety of jobs. "UX" job titles vary and may include jobs such as user experience designer, user interface designer, product designer, service experience designer, information architect, front-end web developer, digital designer, user researcher, and UX researcher.

These roles require knowledge of design thinking, user research, prototyping, usability testing, and front-end development—skills covered extensively in the program's curriculum. Given the growing demand for user-centered design across industries like tech, healthcare, e-commerce, and entertainment, the job market for UX professionals is rapidly expanding. According to Lightcast data, positions in web development, digital interface design, and market research are all experiencing growth, driven by companies prioritizing user-friendly digital solutions.

The BLS does not have a specific category for UX professionals but includes UX roles under broader categories such as "User Interface Designers" and "Web Developers." According to the BLS, employment for web developers (which includes UX designers) is projected to grow 8% from 2021 to 2031, which is much faster than the average for all occupations. For more information on growth projections for a variety of job titles in the UX field at the regional, state, and national level, see the table below.

LinkedIn's 2023 Workforce Report highlighted that UX design is among the fastest-growing job categories. Specifically, LinkedIn reported that the number of UX design job postings increased by 12% year-over-year.

Glassdoor's 2023 "50 Best Jobs in America" report ranked UX Designer as one of the top jobs, noting strong demand and high salaries. UX Designer positions were ranked 6th in their list, indicating a high level of demand and favorable job prospects.

Indeed's 2024 Job Market Report noted that UX Designer roles saw a 15% increase in job postings from the previous year. The report also highlighted that UX roles offer competitive salaries and are in high demand across various industries.

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)
User Experience, Certificate
Computer Science
Visual Arts, Bachelor of Fine Arts

Program Demand
Data and Support
Documents

[LightcastData_5_Occupations.pdf](#)

Delivery Mode

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

No

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

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

No

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

No

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

0

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

Yes

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

No

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

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

Library Resources

Attach library
resources

[Library Resource Form User Experience.pdf](#)

Rationale for the program proposal?

The proposed BS in User Experience (UX) addresses a significant gap in academic offerings both at the university level and across the state of Kentucky. Currently, no program in Kentucky offers a degree with the CIP code [11.0105: Human-Centered Technology Design], which is directly aligned with the interdisciplinary nature of UX. This unique program merges the technical expertise from the Ogden College of Science and Engineering (OCSE) and the creative, human-centered design focus from the Potter College of Arts & Letters (PCAL), making it the first of its kind in Kentucky to combine these fields into a comprehensive degree.

Regionally, there is increasing demand for students skilled in both design and technology. UX professionals are vital in industries ranging from tech startups to healthcare, education, and government. This degree will provide students with the skills necessary to compete in a job market that is projected to grow 8% nationally for UX-related roles, according to the Bureau of Labor Statistics (BLS). LinkedIn's 2023 Workforce Report also highlighted that UX design is one of the fastest-growing job categories, further reinforcing the need for such programs. The proposed BS in UX not only meets this demand but also aligns with statewide goals to increase STEM-related graduates, fulfilling an important role in workforce development.

The growing interest in UX education is evident in the increasing number of programs being established in peer institutions. As the first BS in UX in Kentucky, this program aims to serve students not only from the regional area but also attract students more widely who are interested in a rigorous interdisciplinary approach that prepares them for diverse, high-demand career opportunities.

CPE Proposal

[cpe-notification-of-intent-program-summary-ForCourseleaf.docx](#)

Additional
Attachments

Additional information or attachments

Information relating to program enhancement:

WKU currently offers a 53-hour BS in Computer Science, a 79-hour BFA in Visual Arts with a concentration in User Experience Design, and an 18-hour User Experience Design Certificate. The proposed UX BS will enhance, not replace, this existing curriculum. First, the UX Certificate is 'stackable' - meaning upon completing the coursework for the certificate, a student could roll all credits into and continue their studies towards the new BS degree. Additionally, the proposed UX BS will not replace either major, as there are many students happily and successfully enrolled in both existing majors. As confirmed by our recent student survey, a more likely scenario is that current interested students will choose to double-major, and add the new UX BS.

We also anticipate the development of an interdisciplinary UX BS major, 'hard wiring' the connection between the related existing CS BS and UX BFA degrees, enhancing our current interdisciplinary partnership and therefore enhancing both extant degrees. As a side benefit, we believe this continued work together will also enhance the growth and continued development of our shared Game Design Certificate.

Ultimately, this proposed UX BS program expands upon the UX Certificate, combining this UX foundational knowledge with programming and product development coursework from the Computer Science curriculum, and advanced coursework in effective design and visual communication from the Art & Design curriculum.

Reviewer Comments