

Colonnade General Education Committee Report
University Senate
Sept. 10, 2019

Action Items

Course Proposals and syllabi attached

Approval of:

1. RELS 306 Islam (Connections: Local to Global) Implementation: Spring 2020
2. ASTR 305 Astrobiology (Connections: Systems) Implementation: Spring 2020
3. PHYS 231/232: Physics and Biophysics I/Physics and Biophysics I Laboratory (Explorations: Natural and Physical Sciences) Implementation: Spring 2020

Colonnade Connections Course Proposal Local to Global Subcategory

Proposal Contact Name, E-mail, and Phone: Sophia Rose Arjana, sophia.arjana@wku.edu, 270-745-5752
College and Department: Potter College, Philosophy and Religion Proposal Date: 12/1/18

1. Course Details:

- 1.1 Course prefix (subject area), number and title: RELS 306 Islam
- 1.2 Credit hours: 3
- 1.3 Prerequisites¹: None
- 1.4 Crosslisted and/or equivalent courses (prefix and number): This course is already taught but is being changed to a Colonnade course
- 1.5 Expected number of sections offered each semester/year: 1-2
- 1.6 Is this an existing course or a new course? Existing course
- 1.7 Proposed term of implementation? Spring 2020
- 1.8 Where will this course be offered? (Bowling Green main campus, regional campuses, online? List all.) Bowling Green main campus, online

2. Provide a brief course description (100-200 words).

Islam (RELS 306) examines the history, rituals, and traditions found among the world's 1.7 billion Muslims. This course is interdisciplinary, utilizing the work of religious scholars, anthropologists, art historians, and cultural critics. Students will learn about the early Muslim community, the formation of rituals like prayer, contemporary practices, cultural expressions such as religious murals, and more. This course presents Islam not as a monolith, but as a broad set of identities, practices, and traditions found everywhere from the United States to Indonesia.

3. Explain how this course provides a *capstone* learning experience for students in Colonnade (compared to an introductory learning experience). Explicitly address how students in the course apply knowledge from multiple disciplines to the significant issues challenging our individual and shared responsibility as global citizens.

This course is interdisciplinary and is sensitive to different learning styles, especially to visual learners through the final art project. The art project has already been shown to be a successful and effective assessment from which students learn about research skills and Islamic subjects. It examines Islam through books, films, television, music, and journal articles. Students will analyze these sources, learn applied research skills, and produce papers and projects that reflect the analysis of texts within the theoretical framework of religious studies. This course looks at Islam both in North America and globally, exposing students to different cultures and forms of Muslim practice.

4. List the *course goals* (see Glossary of Terms), and explain how are they aligned with the Connections student learning outcomes. In the table below, describe in the right-hand column explicitly how the course meets each Connections SLO for the Local to Global subcategory. Descriptions in the right-hand column should be consistent with statements listing of course activities, readings, etc. in the syllabus attached to this application.

Connections Student Learning Outcomes	How does the course meet these learning outcomes? (Align course goals to Connections SLOs)
<i>Example: Analyze issues on local and global scales.</i>	<i>Example: Students will analyze a range of issues relevant to an understanding of African American internationalism and Diaspora</i>

¹ Courses may require prerequisites only when those prerequisites are within the Colonnade Foundations and/or Explorations listing of courses.

	<p><i>Studies. Two specific examples are:</i></p> <ul style="list-style-type: none"> • <i>An emphasis on African American civil rights activism, paying particular attention to how non-violent struggles for citizenship rights in communities in the southern United States impacted the direction of the civil rights advocacy on a national level as well as African independence struggles on an international level.</i> • <i>An emphasis on how African liberation movements and the image of newly independent African states inspired an African American struggle for respect and recognition. Emphasis in this regard will be given to those spaces that facilitated the creative interaction between African and African American communities, namely churches, historically black colleges, newspapers, and political organizations. Organizations like the Pan African Congress movement linked the struggle for Civil Rights in the United States to struggles for African independence.</i>
1. Analyze issues on local and global scales.	Students will examine Islam in a cross-cultural context. For example, readings will include scholars from different cultural, social, and religious backgrounds.
2. Examine the local and global interrelationships of one or more issues.	Students will examine Islam in both North America and globally and consider how they create meaning in the lives of individuals. For example, students will examine contemporary Muslim music from the genres of country to French hip-hop.
3. Evaluate the consequences of decision-making on local and global scales.	Students will examine the ways in which audience members create meaning in relationship to religious texts and traditions. For example, students will read about the ways in which the Qur'an is used ritually as well as its role in visual culture in Muslim societies.

5. List additional student learning outcomes, beyond the three Connections SLOs, that will guide student learning in this course (if any).

6a. Explain how the department plans to assess each of the Connections student learning outcomes beyond course grades. Note: SACSCOC requires assessment of SLOs to compare Bowling Green campus, online, and regional campus learning experiences; some consideration of such a distinction must be included in the right-hand column, when applicable.

Connections Student Learning Outcomes	Identify the “artifact(s)” (assignments, papers, activities, etc) that will be used for assessing each learning outcome beyond course grades. Applicants must be explicit in describing how the artifact(s) provides evidence of student learning for each Connections SLO.	Describe in detail the assessment methods the department will employ for this Connections course. Assessment plans must produce a separate evaluative rating for each Connections SLO.
<i>Example: Analyze issues on local and global scales.</i>	<i>Example: Students will write two book reviews, three to five pages in length. All of the assigned</i>	<i>Example: At the end of the semester, students will be required to submit their book reviews and final research paper in</i>

	<p><i>readings deal with an aspect of African Diaspora history, culture, and experiences. As such, students will be required, in their reviews, to identify and discuss the ways in which the author successfully addresses the interrelationship of social realities, events, people, and/or social movements in local, national, and global contexts.</i></p> <p><i>Students will also be required to complete an eight to ten page research paper (excluding title page and bibliography) on any aspect of the African Diaspora experience.</i></p> <p><i>The artifact for assessment is a portfolio that includes these three written assignments.</i></p>	<p><i>a portfolio. The department's assessment team will then collect a random sample of 30% of student portfolios and evaluate the portfolios using the Connections rubric, which provides a separate rating for each Connections Learning Outcome.</i></p>
1. Analyze issues on local and global scales..	<p>Students will work through this analysis by completing the required reading, choosing an additional required reading, and developing a paper topic. Students will demonstrate their mastery of the course material through the midterm paper.</p>	<p>The midterm paper will serve as the artifact for assessment in this Connections SLO using the rubric below. 20% of the class will be sampled and assessed according to the attached rubric. 50% should score a B- or better.</p>
2. Examine the local and global interrelationships of one or more issues.	<p>Students will examine local and global forms of Islam and how they are connected.</p>	<p>The art project will serve as the artifact for assessment in this Connections SLO using the rubric below. 20% of the class will be sampled and assessed according to the attached rubric. 50% should score a B- or better.</p>
3. Evaluate the consequences of decision-making on local and global scales.	<p>Students will identify the different interpretations of Islam.</p>	<p>The book review will serve as the artifact for assessment in this Connections SLO using the rubric below. 20% of the class will be sampled and assessed according to the attached rubric. 50% should score a B- or better.</p>

6b. Include the rubric that will be used for Connections assessment (either in the space below or as an attachment). Also, for each of the SLOs briefly note what benchmarks you will use to determine whether the course successfully met its goals for each of the rubrics.

	Capstone (4)	Milestone (3)	Milestone (2)	Benchmark (1)
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<p>1. Analyze Issues on local and global scales</p> <p>(modified from item 4 of the Inquiry and Analysis AAC&U VALUE Rubric)</p>	<p>Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to Islam.</p>	<p>Organizes evidence to reveal important patterns, differences, or similarities related to Islam.</p>	<p>Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities related to Islam at the local and global levels.</p>	<p>Lists evidence, but it is not organized and/or is unrelated to Islam at the local or global levels.</p>
<p>2. Examine the local and global interrelationships of one or more issues.</p> <p>(modified from item 1 of the Critical Thinking AAC&U VALUE Rubric)</p>	<p>The local and global influences of Islam is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.</p>	<p>The local and global influences of Islam is stated, described, and clarified so that understanding is not seriously impeded by omissions.</p>	<p>The local and global influences of Islam is stated, but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.</p>	<p>The local and global influences of Islam is not stated clearly or are presented without clarification or description.</p>
<p>3. Evaluate the consequences of decision-making on local and global scales.</p> <p>(modified from row 4 of the Problem Solving AAC&U VALUE Rubric)</p>	<p>Evaluation of the different experiences of Muslims is deep and elegant (i.e. contains thorough and insightful explanation) and includes, deeply and thoroughly, all of the following: considers history of problem, reviews logic/reasoning, examines feasibility of solutions, and weighs impacts of solutions at the local and global levels.</p>	<p>Evaluation of the different experiences of Muslims is adequate (i.e., contains thorough explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solutions, and weighs impacts of solutions at the local and global levels.</p>	<p>Evaluation of these experiences is brief (i.e., explanation lacks depth) and includes the following: considers history of problem, reviews logic/ reasoning, examines feasibility of solutions, and weighs impacts of solutions at the local and global levels.</p>	<p>Evaluation of these experiences is superficial (i.e., contains cursory, surface level explanation) and includes the following: considers history of problem, reviews logic/ reasoning, examines feasibility of solutions, and weighs impacts of solutions.</p>

7. Evidence & Argument Artifact. As the capstone experience for the Colonnade Program, Connections courses are expected to include activities, assignments, or other learning experiences that will produce at least one “artifact” (research paper, presentation, major project, etc.) that can be used to evaluate students’ ability to identify, synthesize, and make use of evidence in support of cogent and persuasive arguments. What

“artifact” in the proposed course could be used for this purpose? (Note: This could be, but is not required to be, the same “artifact” identified in 6a above.)

The book review will be provided to serve as the artifact in support of the Evidence & Argument assessment. Examples of the E & A artifact could be as follows.

The students will hand in a book review at the end of the semester. Students will present on their book in a formal conference setting, which is organized according to topic.

8. Attach a sample course syllabus. The course syllabus must contain the three Connections student learning outcomes for the subcategory as well as any additional student learning outcomes listed in this application, and those learning outcomes must appear in every section's syllabus.

Islam
RELS 306
Spring 2020
Dr. Sophia Arjana
sophia.arjana@wku.edu

Course Description

Islam (RELS 306) examines the history, rituals, and traditions found among the world's 1.7 billion Muslims. This course is interdisciplinary, utilizing the work of religious scholars, anthropologists, art historians, and cultural critics. Students will learn about the early Muslim community, the formation of rituals like prayer, contemporary practices, cultural expressions such as religious murals, and more. This course presents Islam not as a monolith, but as a broad set of identities, practices, and traditions found everywhere from the United States to Indonesia.

Course Objectives

To understand the origins of Islam
To have a mastery of key Islamic terminology
To understand the role of texts, ritual, and material culture in Muslim-majority societies
Achieve all of the above by conducting research in both written and other (visual, material) forms

Required Texts and Blackboard Readings

This course has two required texts. The first is:

Omid Safi, *Memories of Muhammad: Why the Prophet Matters*

The second required text is:

Elizabeth Bucar, *Pious Fashion: How Muslim Women Dress*

All other readings will be posted on Blackboard in PDF form.

Colonnade Learning Outcomes/Artifacts and Evidence

During the course of the semester, students will have: (1) An appreciation of the complexity and variety of the world's cultures, (2) A historical perspective and an understanding of connections between past and present, (3) An understanding of human society and behavior, (4) Proficiency in reading, writing, and speaking

This course fulfills the Colonnade Connections Local to Global requirement and the SLOS below.

Colonnade Connections Course: Local to Global Learning Outcomes

- 1) Analyze issues of local and global scales
- 2) Examine the local and global interrelationships of one or more issues.
- 3) Evaluate the consequences of decision-making on local and global scales.

During the course of the semester, students will do the following assignments to meet these outcomes:

- 1) Write a midterm essay (outcome #1)
- 2) Complete an art project (outcome #2), and
- 3) Write a book review (outcome #3)

Grading

Grading is on a 100-point scale. No weighted grades, no surprises, no pop quizzes, no final exam, no extra credit. This is as straightforward as it can be.

Midterm Essay	20% (30 points)
Scrapbook	20% (20 points)
Book Review	30% (20 points)
Art Project	30% (20 points)

**All assignments are due to me in hard (paper) copy on the due date.

Scrapbook and Infograph

Part 1: The scrapbook is a way of you documenting Islamic culture through media sources.

Think of this as a journal of your reflections on Islam.

Requirements: A minimum of one page per week, for a total of 15 pages. You may include images from magazines, the internet, or other sources. Your scrapbook should include a cover page that identifies your subject and what you learned from the scrapbooking exercise. This portion should be no longer than two pages double-spaced Times New Roman 12.

Part 2: Infograph

Using the software that we discuss in class, make a word cloud, timeline, or storyboard of your scrapbook. It should include

Midterm Essay

This is a very brief essay on the reading you found the most compelling, explaining what you learned from it and how it helped you understand Islam. It should be no longer than three pages, double-spaced, 12-point Times New Roman font and must include Chicago Manual of Style footnotes.

Book Review

Each student will choose a book to review. You will write a three-page review of this book and focus on the following:

The book's thesis

The contribution of the book to the field of Islamic Studies (i.e what does it contribute?)

What does it teach you about Islam?

You will organize yourself into groups and present to the class in the style of an academic conference. This entails:

A brief presentation of your review

A theme for your panel

The expectation that students outside of your panel will pose questions that you will need to answer

Choose a book from this list: *List will be expanded before class is taught

Fatima Mernissi, *Dreams of Trespass: Tales of a Harem Girlhood*

Shahzad Bashir, *Sufi Bodies: Religion and Society in Medieval Islam*

Tarif Khalidi, *The Muslim Jesus: Saying and Stories in Islamic Literature*

Hisham Aidi, *Rebel Music: Race, Empire, and the New Muslim Youth Culture*

Juliane Hammer, *American Muslim Women, Religious Authority, and Activism: More Than a Prayer*

Maria Rosa Menocal, *Ornament of the World: How Muslims, Jews, and Christians Created a Culture of Tolerance in Medieval Spain*

Martin Nguyen, *Modern Muslim Theology: Engaging God and the World with Faith and Imagination*

Kecia Ali, *The Lives of Muhammad*

Shabana Mir, *Muslim American Women on Campus: Undergraduate Social Life and Identity*

Matthew Pierce, *Twelve Infallible Men: The Imams and the Making of Shiism*

John Renard, *Islam and Christianity: Theological Themes in Comparative Perspective*

Sarah Eltantawi, *Shariah of Trial: Northern Nigeria's Islamic Revolution*

Reina Lewis, *Muslim Fashion*

Azadeh Moaveni, *Lipstick Jihad*

Hooman Majd, *The Ayatollah Begs to Differ*

Ali Lakhani, editor, *The Sacred Foundations of Justice in Islam*

Art Project

Objective: I would like you to reflect on Muslims and material religion—bodies, clothing, art, architecture, film, photography, music, and ritual (and more). Think about people, groups, practices, ideas you have learned about in the readings and discussions in class and how they deal with bodies and other material aspects of the religious lives of Muslims. In turning a specific idea, reflection, or thought into an art piece, keeping in mind questions as diverse as representation, critique, self-reflection, and comparison, consider how art becomes a vehicle of communication and what you are attempting to communicate. There are very few limits to your creativity, so indulge yourself and use your artistic talents to the fullest.

There are three artistic options for you to choose from:

Part One: Art Assignment (15%)

Options

1: Create a piece of visual art from any material of your choice and with any techniques you are familiar with. The maximum dimensions are 30 x 30 inches.

2: Write a short story, monologue, dialogue, teaching story or poem to express the perspective or opinion you have chosen. Here the length is minimum 1 page single-spaced and maximum 3 pages single-spaced. Do remember that style, layout and format matter, so you might want to use your artistic talent for the right way of styling your writing (think interesting fonts, burnt edges, special paper, a booklet, etc.).

3: There is the third option of creating an audio or audiovisual piece of art. Provided you have the technical capacity and can deliver the result of your work to me (and the class) somehow, this is certainly a possibility.

Consult with me if you are uncertain.

Part Two—Explanation and Bib (15%): For all three options the result of your creative process has to be accompanied by a 2-page (minimum 600 word) explanation of what you did and why you did it and an annotated bibliography (where each entry has a brief summary of the source). I would like to be able to fully appreciate your work and thus you will have to share your thought process, choice of media and techniques and meanings of the art piece with me—this is part of your grade for this assignment. I do realize how subjective grading such an art piece is; what matters most to me is the amount of time, effort and thought you put into this and that is usually not very hard to figure out.

If you are in doubt at any point in the process or if you need more information, get in touch with me and I will try my best to help and clarify. I can provide you with additional sources and give you feedback on what you are working on.

Requirements: Typed, 12-point Times New Roman, single-spaced. Summaries and annotated bibliographies should include the following: the title of the reading with bibliographic information in the Chicago Style with a one-paragraph description of your source, and an explanation of your project that consists of a narrative about why you chose your topic, your process, and what the project taught you about Islam.

Academic Integrity

Regarding *cheating*, the University states, “No student shall receive or give assistance not authorized by the instructor in taking an examination.” In this course, specific examples of unauthorized assistance include sharing reading notes with other students, including those enrolled in subsequent sections of this course.

Students must work independently on papers and writing assignments and avoid *plagiarism*, which the University defines as “any use of another writer’s words, concepts, or sequence of ideas without acknowledging that writer properly.” Violations almost always result in a zero on the paper or an automatic F in the course.

Title IX, Discrimination, Harassment, and Sexual Misconduct Policy Statement

Discrimination, harassment, and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Accommodations

In compliance with University policy, students who have disabilities and require academic and/or auxiliary accommodations for this course are encouraged to contact the Student Accessibility Resource Center, which is located in Downing Street Union 1074 (270-745-3004; 270-745-3030TTY); sarc.connect@wku.edu. Please obtain a faculty notification letter (FNL) from the Student Accessibility Resource Center before requesting accommodations directly from the professor.

Course Expectations

You are expected to come to every class unless you have an extenuating circumstance such as illness or family emergency (the former of which needs to be documented by a physician’s note).

Technology Policy

You are not permitted to use technology in this class except for the Art Projects at the end of the semester or other occasions that I have noted in class. This means no visible cell phones, tablets, laptops, or other devices. The only exceptions are those who have a special accommodation (see statement above). *Please remember that this policy is designed for you. Studies show that students learn better when they hand-write notes in a notebook and when they are off technology (screens) during class.

Other Important Stuff

You are encouraged to come see me **at least once** during the semester before the midterm We can discuss a reading, check in about class, or go over a paper.

Communication! I am **very** good about answering student emails, but do not answer emails on the weekends (Friday afternoon through Monday morning). Please do not email me with an emergency (“I cannot finish my paper on time!”) on the weekends because I will not see your email.

Lastly, if you are ill, please stay home (especially if you have the flu) and submit a physician’s note to excuse the absence.

Food Insecurity: Around 50% of college students have difficulty affording groceries. Please contact the WKU Food Pantry (270-745-2508) or email them at sustainability@wku.edu. If you experience food insecurity and need a snack, come see me in my office. I have emergency supplies on hand.

An Important Reminder on Religious Studies in the Public University

“The school’s approach to religion is *academic*, not *devotional*.

The school strives for student *awareness* of religions, but does not press for student *acceptance* of any religion.

The school sponsors *study* about religion, not the *practice* of religion.

The school may *expose* students to a diversity of religious views, but may not *impose* any particular view.

The school *educates* about all religions; it does not *promote* or *denigrate* religion.

The school *informs* students about various beliefs; it does not seek to *conform* students to any particular belief.”

A Teachers Guide to Religion in the Public Schools, First Amendment Center, Nashville, 1999, p. 3].

Additional Learning Resources

The WKU Center for Literacy is located in Gary A. Ransdell Hall 2066. At the Center for Literacy, students can receive assistance in developing strategies to help with **reading/studying to learn** and **writing for evidence and argument**. The Center for Literacy offers both individual and small group sessions throughout the semester. Please email @ literacy.center@wku.edu to schedule an appointment or ask questions, visit the website at <http://www.wku.edu/literacycenter/>, or stop by GRH 2066 for more information.

The WKU Writing Center is at 123 Cherry Hall and can be reached at writingcenter@wku.edu or 270-745-5719. They have great resources and can offer support for writing — either in person or online (for distance learners). Their website is <https://www.wku.edu/writingcenter/>

Schedule of Classes and Readings

The schedule is organized according to topic and texts (readings and visual texts, which are largely comprised of film clips). *A list of prospective readings is included here.

Schedule of Classes

Week 1: Foundations: Pre-Islamic Arabia and the Life of Prophet Muhammad
Introductions

Week 2: Prophethood in Islam, Qur’an, and the Sunnah
Readings: Safi, 1-2

Week 3: The Ahl al-Bayt, The Shii, Islamic Religious Movements
Readings: Safi, 3-4

Week 4: The Five Pillars
Readings: Safi, 5-6

Week 5: Al Qur’an

Readings:

Week 6: Sunnah

Readings:

Midterm Essay Due

Week 7: The Art of the Qur'an

Film:

Week 8: Prayer and Meditation

Readings: Renard, Part I

Film: Half Moon (Niwemang)

Week 9: Pilgrimage

Readings:

Scrapbook Due

Week 10: The Path to God (Sufism)

Readings:

Week 11: Contemporary Islam: Gender

Readings:

Week 12: Contemporary Islam: Music

Book Reviews Due

Mock Conference

Week 13:

Week 14: Art Projects

Week 15: Art Projects

Colonnade Connections Course Proposal

Systems Subcategory

Astrobiology 305

Proposal Contact: Dr. Charles H. McGruder III, mcgruder@wku.edu and 270-745-5277:

College and Department: Ogden, Physics and Astronomy Proposal Date: August 25, 2019

1. Course Details:

- 1.1 Course prefix: Astr (subject area: Astronomy and Biology), number and title: Astrobiology 305
- 1.2 Credit hours: 3
- 1.3 Prerequisites¹: MATH 116 and Astr 104 or Astr 106 or Astr 108 or Astr 214 or BIOL 120 or CHEM 120 or GEOL 111
- 1.4 Crosslisted and/or equivalent courses (prefix and number): none
- 1.5 Expected number of sections offered each semester/year: 1/year
- 1.6 Is this an existing course or a new course? Existing
- 1.7 Proposed implementation term: Spring 2020
- 1.8 Where will this course be offered? (Bowling Green main campus, regional campuses, online? List all.) Bowling Green main campus

2. Provide a brief course description (100-200 words):

Interdisciplinary study of life on Earth (including the effects of climate change) and possible life beyond Earth. Topics include the environments suitable for life, evolution of life forms, and the search for intelligent extraterrestrial life. Integrates concepts and methods from astronomy, biology, chemistry, climatology, and geology.

3. Explain how this course provides a *capstone* learning experience for students in Colonnade (compared to an introductory learning experience). Explicitly address how students in the course apply knowledge from multiple disciplines to the significant issues challenging our individual and shared responsibility as global citizens:

Introductory astronomy courses answer the questions of what are the basic structures in the universe, what are they made of and how did they come

¹ Courses may require prerequisites only when those prerequisites are within the Colonnade Foundations and/or Explorations listing of courses.

into being and how they evolve as well as the question about the origin and evolution of the entire universe. In contrast astrobiology is an interdisciplinary scientific field involving astronomy, biology, chemistry, climatology, and geology. Specifically, it is concerned with the origins, early evolution, distribution, and future of life in the universe. This later aspect is particularly important as applied to earth because the future of life on earth is intimately connected to climate change, which challenges every individual in shared responsibility as global citizens.

4. List the *course goals* (see Glossary of Terms), and explain how are they aligned with the Connections student learning outcomes. In the table below, describe in the right-hand column explicitly how the course meets each Connections SLO for the Systems subcategory. Descriptions in the right-hand column should be consistent with statements listing of course activities, readings, etc. in the syllabus attached to this application.

Connections Student Learning Outcomes	How does the course meet these learning outcomes? (Align course goals to Connections SLOs)
<i>Example: Analyze how systems evolve.</i>	<i>Example: Students analyze both the development and evolution of the mental system within an individual (e.g., (i) the utilization of various mental and sensori-motor components in an individual's development of a theory of mind and a capacity for joint attention, and (ii) causal and historical conditions of reference of singular terms and their neural realizers in an individual's cognitive system) as well as the essential role that causal history plays in the development across individuals of mental states with propositional contents (e.g., how the evolution of syntactic processing in humans' mental system can account for conditions of veridical representation of one's environment).</i>
1. Analyze how systems evolve.	<p>Students will learn how, when and under what physical conditions life originated on earth. Next the students will learn how life evolved and under what physical conditions it occurred.</p> <p>Students will study the development of stellar systems, planetary geology and emergence and development of biological systems.</p> <p>Students will analyze an astrological/geological/biological planetary system and its evolution as part of the final project.</p>
2. Compare the study of individual components to the analysis of entire systems.	<p>Next students will take this knowledge and apply it to other worlds to explore the possibility of life elsewhere in the universe and how it could have evolved or is expected to evolve.</p> <p>Students will examine systems by breaking them down into their component processes – specifically molecular biological, biophysical, biochemical, chemical, astronomical, cosmological, exoplanetological and geological processes. Students will learn how these processes interact to make life possible on Earth and in extraterrestrial environments.</p>

3. Evaluate how system-level thinking informs the sustainability of the system itself.	<p>Finally students will learn what physical conditions are necessary for life to continue to thrive on earth that is they will explore the sustainability of life on earth and on extraterrestrial worlds.</p> <p>Students will explore at a system level how the internal interactions impact the sustainability of an astrobiological system.</p>
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5. List additional student learning outcomes, beyond the three Connections SLOs, that will guide student learning in this course (if any).

6a. Explain how the department plans to assess each of the Connections student learning outcomes beyond course grades. Note: SACSCOC requires assessment of SLOs to compare Bowling Green campus, online, and regional campus learning experiences; some consideration of such a distinction must be included in the right-hand column, when applicable.

Connections Student Learning Outcomes	Identify the “artifact(s)” (assignments, papers, activities, etc) that will be used for assessing each learning outcome beyond course grades. Applicants must be explicit in describing how the artifact(s) provides evidence of student learning for each Connections SLO.	Describe in detail the assessment methods the department will employ for this Connections course. Assessment plans must produce a separate evaluative rating for each Connections SLO.
<i>Example: Analyze how systems evolve.</i>	<i>Example: The department will use several questions, added to the final exam, in order to assess how well the course’s learning outcomes are being met. Each question will correspond to a separate Connections Student Learning Outcome for the Systems Subcategory.</i>	<i>Example: At the end of each semester the final exam answers of 30% of the students in the course will be selected at random for assessment. Each answer will correspond to one of the three Colonnade Student Learning Outcomes. At the beginning of the next semester a faculty member will assess each answer using the attached rubric. The names of the students and of the instructor will be eliminated before the assessment takes place. Assessment results will be communicated to the Department Head, who will then follow up with the faculty who teach the course and the department.</i>
1. Analyze how systems evolve.	The final research project will be used to evaluate student understanding of how systems evolve.	At the end of each semester the professor of the course and at least one additional faculty member will evaluate 30% of the students’ research projects by the rubric below and the goal is that at least 70% of the projects will be rated “good” or better.

2. Compare the study of individual components to the analysis of entire systems.	The final research project will be used to assess the student’s knowledge of the possibility of life elsewhere in the universe and how it could have evolved	At the end of each semester the professor of the course and at least one additional faculty member will evaluate 30% of the students’ research projects by the rubric below and the goal is that at least 70% of the projects will be rated “good” or better.
3. Evaluate how system-level thinking informs decision-making, public policy, and/or the sustainability of the system itself.	The final research project will be used to assess the student’s knowledge of the sustainability of life on earth.	At the end of each semester the professor of the course and at least one additional faculty member will evaluate 30% of the students’ research projects by the rubric below and the goal is that at least 70% of the projects will be rated “good” or better.

6b. Include the rubric that will be used for Connections assessment (either in the space below or as an attachment). Also, for each of the SLOs briefly note what benchmarks you will use to determine whether the course successfully met its goals for each of the rubrics.

Learning outcome	Excellent	Good	Fair	Poor
Analyze how systems evolve.	The student identifies all relevant components of the astrological, geological and/or biological system, describes all of their interactions and how they evolve over time.	The student identifies the major relevant components of the astrological, geological and/or biological system, describes major interactions and how they evolve over time.	The student identifies only a few components of the system, and/or give only minimal descriptions of their interactions and how they evolve over time.	The student fails to identify important components of the system or their interactions.
Compare the study of individual components to the analysis of entire systems.	The student grasps all the essential features of the possibility of life elsewhere in the universe and how it could have evolved	The student grasps some of the essential features of the possibility of life elsewhere in the universe and how it could have evolved	The student grasps only a few of the essential features of the possibility of life elsewhere in the universe and how it could have evolved	The student’s grasps none or almost none of the essential features of the possibility of life elsewhere in the universe and how it could have evolved
Evaluate how system-level thinking informs the sustainability of the system itself.	The student’s grasps all the essential features of the knowledge of the sustainability of life on earth and in extraterrestrial environments.	The student’s all but one or two of the essential features of the knowledge of the sustainability of life on earth and in extraterrestrial environments	The student’s has missed many of the essential features of the knowledge of the sustainability of life on earth and in extraterrestrial environments	The student’s has missed just about all of the essential features of the knowledge of the sustainability of life on earth and in extraterrestrial environments

7. Evidence & Argument Artifact. As the capstone experience for the Colonnade Program, Connections courses are expected to include activities, assignments, or other learning experiences that will produce at least one “artifact” (research paper, presentation, major project, etc.) that can be used to evaluate students’ ability

to identify, synthesize, and make use of evidence in support of cogent and persuasive arguments. What “artifact” in the proposed course could be used for this purpose? (Note: This could be, but is not required to be, the same “artifact” identified in 6a above.)

The research project.

8. Attach a sample course syllabus. The course syllabus must contain the three Connections student learning outcomes for the subcategory as well as any additional student learning outcomes listed in this application, and those learning outcomes must appear in every section's syllabus.

Astronomy: 305

Astrobiology

Teacher: Dr. Charles H. McGruder, III

Semester/Year: Fall 2019

Phone: 745-5277

Section Number: ASTR 305-001

Office: 2021 KTH

Day/Time: 2:20 TR

Hours: Tuesday, 12-2 and Thursday, 12-2

Room: SH 1108

Textbook: Life in the Universe by Bennett and Shostak

Course Goals:

We seek to understand the origins, early evolution, distribution, and future of life in the universe. We will explore the question of whether extraterrestrial life exists, and if it does, how humans can detect it. Students will examine systems by breaking them down into their component processes – specifically molecular biological, biophysical, biochemical, chemical, astronomical, cosmological, exoplanetological and geological processes. Students will learn how these processes

interact to make life possible on Earth and in extraterrestrial environments. This course satisfies the Colonnade Program Course Proposal: Connections Category requirements. Specifically, students who complete this course will: (1) Analyze how systems evolve, (2) Compare the study of individual components to the analysis of entire systems and (3) evaluate how system-level thinking informs the sustainability of the system itself.

Rationale:

Advancements in observational astronomy and the discovery of large varieties of extremophiles with extraordinary capability to thrive in the harshest environments on Earth, have led to speculation that life may possibly be thriving on many of the extraterrestrial bodies in the universe.

Course Outline:

Part 1: Life on Planet Earth (Analyze how systems evolve)

1. Origin
2. Early Evolution
3. Distribution
 - a. Extremophiles

Part 2: The possibility of Extraterrestrial Life (Compare the study of individual components to the analysis of entire systems)

1. Origin
2. Early Evolution
3. Distribution

Part 3: Future of Life on Earth and in the Universe (Evaluate how system-level thinking informs the sustainability of the system itself)

Grading:

Course requirements make the following contributions toward the grade:

- = 35% Final Exam
- = 20% Midterm Exam
- = 10% Quiz #1
- = 10% Quiz #2
- = 10% Quiz #3
- = 5% Pop Quizzes
- = 10% Research Project

All Examinations and Quizzes must be taken in the classroom.

Each student must submit a research project, which will involve the application of basic astrobiological knowledge. Possible topics are: Terraforming Mars, not terraforming Mars, the Drake Equation – Estimating the number of civilizations in the Milky Way Galaxy, defining the habitable zone, geologic and biological time, how rare is earth-like life in the universe, extreme environments on earth and the creatures that inhabit them, the detection of intelligent extraterrestrial life, possibility of life on Europa, possibility of life on Ganymede, etc. Students are encouraged to come up with their own ideas for research projects. These research projects will involve appropriate evidence to support cogent arguments.

Please complete the following and return electronically to colonnadeplan@wku.edu.

1. What course does the department plan to offer in Explorations? Which subcategory are you proposing for this course? (Arts and Humanities; Social and Behavioral Sciences; Natural and Physical Sciences)

Physics 231/232: Physics and Biophysics I/Physics and Biophysics I Laboratory
Natural and Physical sciences

2. How will this course meet the specific learning objectives of the appropriate subcategory? Please address all of the learning outcomes listed for the appropriate subcategory.

The overall objective of PHYS 231 and PHYS 232 is to provide a survey of the basic physics principles associated with motion, forces, energy and fluids. Students will

1. Demonstrate an understanding of the methods of science inquiry through carrying out a series of experiments in the laboratory component, collecting data, interpreting it, drawing conclusions and reporting results.
2. Not just explain but apply basic concepts and principles of physics in homework and exams of the lecture component as well as in the lab.
3. Will interpret data and make predictions in laboratory hypothesis testing.
4. Will apply physics principles to real life situations, particularly applications to biology, medicine and other health sciences.

3. Syllabus statement of learning outcomes for course. NOTE: In multi-section courses, the same statement of learning outcomes must appear on every section's syllabus.

1. Carry out laboratory experiments, interpreting data, and reporting results. (Demonstrate an understanding of the methods of science inquiry.)
2. Explain and apply physics principles to real-world situations. (Explain basic concepts and principles in one or more of the sciences.)
3. Formulate hypothesis and make experimental predictions. (Apply scientific principles to interpret and make predictions in one or more of the sciences.)
4. Apply physics principles to real-life biological and medical applications. (Explain how scientific principles relate to issues of personal and/or public importance.)

4. Brief description of how the department will assess the course for these learning objectives.

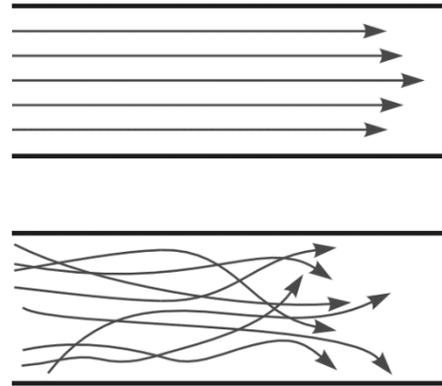
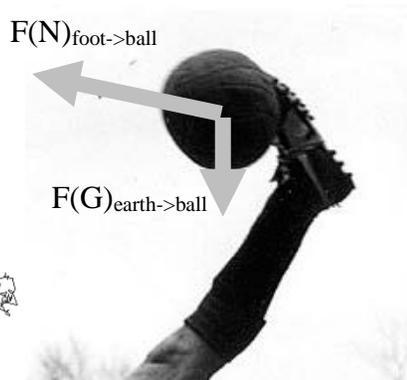
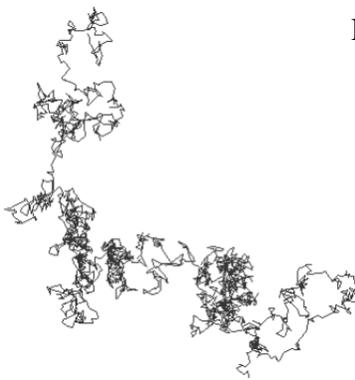
1. Student performance on the laboratory final exam, a practicum exam where they individually carry out different portions of scientific inquiry.
2. Student performance on the mid-term and final exams in the lecture portion of the course.
3. One task on the laboratory final will involve making and testing a prediction.
4. Student performance on the mid-term and final exams in the lecture portion of the course.

5. How many sections of this course will your department offer each semester?

Two sections of lecture with 50-60 students each, and 6 sections of laboratory, capped at 20 students each.

6. Please attach sample syllabus for the course. PLEASE BE SURE THE PROPOSAL FORM AND THE SYLLABUS ARE IN THE SAME DOCUMENT.

Physics 231: Physics and Biophysics I, Fall 2019



Time: Monday, Wednesday & Friday, 8:00-8:55 AM

Location: Kelly Thompson Hall 2038

Text:

Physics, Principles with Applications by Douglas Giancoli.

Homework system: ExpertTA: <https://theexpertta.com/>

Instructor: Dr. Scott Bonham

Office: KTH 2023

Email: Scott.Bonham@wku.edu

Phone: 270-745-6196

Office Hours: Monday 1:00-2:30 PM, Thursday 1-2:30 PM, or by appointment.

Overview

This is an introductory physics course covering motion, forces, energy, momentum, fluids and thermodynamics oriented towards those with interests in biology and various health sciences. The focus will be on developing skills in modeling and problem-solving to be able to apply them to different real-world contexts.

Colonnade Requirements

This course along with the corresponding laboratory satisfies the Colonnade requirements for natural sciences. Students will demonstrate the ability to:

1. Demonstrate an understanding of the methods of science inquiry. (Physics 232)
2. Explain basic concepts and principles in one or more of the sciences. (Physics 231)
3. Apply scientific principles to interpret and make predictions in one or more of the sciences. (Physics 232)
4. Explain how scientific principles relate to issues of personal and/or public importance. (Physics 231)

Learning Objectives

- Explain and apply physics principles to real-world situations. (Explain basic concepts and principles in one or more of the sciences.)
- Apply physics principles to real-life biological and medical applications. (Explain how scientific principles relate to issues of personal and/or public importance.)
- Describe and predict aspects of motion: linear, circular, periodic, diffusive.
- Describe forces and their effects on objects.
- Use concepts of energy and momentum to describe physical phenomena.
- Describe fluids: pressure, density and flow.
- Use concepts of thermodynamics to describe a system.

Course components

Reading: You must do the assigned reading from the text before coming to each class, so you will be able to work with and interact with other students in developing the skills to apply the ideas.

Class: Almost every day there will be classroom activities and class discussion of materials of various degrees of structure. The focus will be on developing solid understanding of important topics and applying them to real-life situations. You need to come to class awake and ready to work with others to develop skills. Please ask questions.

Pre-class questions: For each class there will be a set of open-ended questions to answer on Blackboard. These will be due at midnight the night before. These will be graded on a basis of effort, not correctness, and often will not have a single correct answer. Typically, this will include one or more questions related to the reading. Questions may also probe your pre-existing understanding of concepts, ask you to apply an idea, ask you to reflect on your learning, or check mastery of skills we have practiced. Doing this is very important to being prepared, so you must do this before you come to class.

Homework: The purpose of homework is to give you a chance to practice the skills you are learning and get feedback. There will typically be a couple of assignments a week, generally due Tuesday and Thursday evenings. It is important that as you work on these that you make sure you understand *the process to be followed* and not focus on just getting the right answer. You are encouraged to work together in a study group as long as you make sure everyone in the group understands the process of figuring it out. I would strongly discourage you from relying on “homework help” sites, because it becomes very easy to focus on getting the answer and not learning the process. To get full credit on the homework, it should be completed by the due date. After that you will have opportunity to complete it for partial credit. Additional practice sets that do not count for your grade will periodically be posted.

Exams: There will be three mid-term exams and a final. The mid term exam dates will be: September 16, October 7, and November 11. The course final will be on Thursday, December 12 at 8 am.

Extra Credit: There will periodically be opportunities to earn extra credit, up to a maximum of 25 points (2.5% of the over all grade). These may include: attending and writing a summary of a physics talk, assisting in a physics department activity, reading and writing a response to a physics related article. Specific details will be posted on Blackboard and discussed in class.

Grading

The anticipated distribution of available points is in the chart below.

Category	Anticipated #	Total points
Pre-class questions	40	100
Homework	25	100
In-class activities	10	50
Mid-term exam	3	450
Final exam	1	300
Total		1000

(Extra credit) (25)

Semester Schedule

The anticipated schedule for the semester is shown below. There may be some sifting for instructional considerations, but exams will follow this schedule unless otherwise announced in advance.

Week	Dates	Principle topics
1	Aug 26-30	Introduction, metacognition and math
2	Sept 4-6	One dimensional motion
3	Sept 9-13	Motion in one and two dimensions
4	Sept 16-20	Test 1, Introduction to forces
5	Sept 23 - 27	Forces and applications
6	Sept 30 - Oct 4	Momentum and diffusion
7	Oct 7-9	Test 2, States of matter
8	Oct 14-18	Matter and fluids
9	Oct 21-25	Fluid properties and flow
10	Oct 28 – Nov 1	Energy
11	Nov 4-8	Energy and oscillations
12	Nov 11-15	Test 3, Oscillators and pendulums
13	Nov 18-22	Heat and temperature
14	Nov 25	Entropy
15	Dec 2-6	Slop/review
	Dec 12	Final exam

The grade will be out of a thousand points, with 900 points and above an 'A', 800-899 a 'B', 700-799 a 'C', 600-699 a 'D' and below that failing. I reserve the right to make minor adjustments to the number assignments and points in the first three categories as needed. There will be at least a thousand points available, not counting extra credit. If in the end there are more than a thousand points available, it will not change the grade cut points

Class Policies

Attendance and make-up work: Attending class is critical to filling in your understanding, developing your own abilities, and helping out your classmates. You should make every effort to attend each class and be ready to participate. You will not be able to make up any missed in-class activities without a valid, verified excuse. Please notify me in advance for any absences that are known in advance, and as soon as possible for unanticipated ones. For the exams, you must notify me in advance for any conflicts that you know you will have, and as soon as possible for any unanticipated ones to make arrangements to make up the exam as soon as possible. Note that in order to ensure all the same material is covered, any make-up exams will likely be longer than regular ones.

Working with others: In this class we will be interacting with other students to practice physics; please be kind and courteous to everyone you work with and ensure that each person has a chance to learn (instead of just finishing as fast as possible). I reserve the right to assign you to work with a particular group, which could involve assigning seats; if that happens, I expect you to work well with your assigned group. If you have problems with working with an assigned partner, please try to work it out in a respectful way as adults before coming to me as a last resort.

Electronic devices: During class time, the *only* reason you should have electronic devices out (phones, tablets, laptops) is for course related work so that you do not distract yourself or others. This includes if your group has finished an activity and is waiting for others; instead of getting out your phone, you should do things such as review the activity to make sure everyone in the group understands it, see if you can help others still working on it, go over homework or reading, or otherwise engage in class-related activities. I will try to remind/warn if I see non-physics related electronic use. Persistent misuse of electronic devices may result in them being confiscated until the end of the class period.

Disability statement: In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. The phone number is 270.745.5004 [270.745.3030 V/TTY] or email at sarc@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Physics 232 Syllabus

Co-requisite lab for PHYS 231- Intro Physics and Biophysics 1

Course Outline: The Physics lab course will consist of a number of experiments and meets three times a week for 2 hours. Lab will meet the first week of classes. During the first meeting, the Concept Test will be given and the exercise described in the next chapter “Igor-Pro and Equation-Writer” will be covered.

Learning Outcomes: Students will demonstrate an understanding of the methods of science inquiry through carrying out experiments, analyzing data, and evaluating accuracy and precision. They will make and test laboratory predictions, and will demonstrate an understanding of basic concepts in mechanics, laboratory techniques and equipment.

Colonnade: This course along with the corresponding lecture satisfies the Colonnade requirements for natural sciences. Students will demonstrate the ability to:

1. Demonstrate an understanding of the methods of science inquiry. (Physics 232)
2. Explain basic concepts and principles in one or more of the sciences. (Physics 231)
3. Apply scientific principles to interpret and make predictions in one or more of the sciences. (Physics 232)
4. Explain how scientific principles relate to issues of personal and/or public importance. (Physics 231)

1. Topnet lists a “Teacher-on-record”, however, teaching will be done by a Graduate Assistant (this is the instructor).

2. Questions/Complaints/Problems: Talk to the instructor first, but if no resolution can be reached contact Dr. Dobrokhotov, the Laboratory Director. Do not contact the Teacher-on-record as listed on Topnet.

3. Lab manuals will be handed out during the first meeting. The student agreement sheet must be turned signed and turned in by the second lab meeting.

4. Grading

Grades are determined by: Grade = Reports 60% + Quizzes 10% + Final 30%.

5. Quizzes

A short quiz will be given during the first few minutes of each class over the experiment to be performed that week. The purpose of these quizzes is that you come to class prepared. Experience has shown that students who do not prepare have difficulties finishing on time, whereas students who are well prepared are able to finish easily within the 2-hour class period.

6. Concept Test

A Concept Test will be given the first and last weeks of lab classes. This test is a multiple-choice-test on objectives & ideas you will learn in the lab class. You will not receive a copy of this test. You are not allowed to make notes during the test, but you are allowed to make notes about it during the first class after you hand it in. As a matter of fact, you SHOULD make notes about it then, so that you can study the concepts you did not understand. The score of the Concept Test will not count, but the instructor will keep it on record to mark your progress by comparing Concept Test #1 with Concept Test #2.

7. Final

Final = Exam given during the last class involving taking and analyzing data. The laboratory final is given the week prior to class finals during the regularly scheduled lab meeting time.

8. Report = Long Report or Short Report

a) Long Report consists of Abstract (10% of your grade on the report), Introduction (15%), Materials/Methods (15%), Results (45%) and Discussion+Questions (15%).

b) Short Report consists of Abstract (20%), Results (50%), Discussion+Questions (30%).

9. In general, every other week you will hand in a Long report or Short report. The instructor will tell you whether a Short or a Long report is due. Examples of each are given elsewhere in the manual. The grading rubric lists individual sections and the points for each item required for the report. If a section is not required for a specific report, the points are dismissed.

10. Lab Reports must be 1) sent by e-mail to your instructor or 2) hand in a hard copy. There will be a late penalty of $3 \times N$ points if the report is N hours late, if $N < 33$, but if $N \geq 33$ your grade on that report will be zero. Late penalties may be waived in exceptional circumstances, but the only person who can waive the penalty is Dr. Dobrokhotov.

11. **No make-up labs are permitted.** The lowest lab report and quiz score will be dropped at the end of the semester.
 12. In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success Center in Downing University Center. Please **DO NOT** request accommodations directly from the professor or instructor without a letter of accommodation from this office.
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