

Colonnade Program Course Proposal: Explorations Category

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

Biology 113/113C General Biology

Note: For this course, we are moving to electronic texts, supplemental electronic means of assessment and exploration. This will permit more of a flipped classroom approach to facilitate discussions even with large class sizes.

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.

1. Demonstrate an understanding of the methods of science inquiry.

Through in class exercises, quizzes, homework assignments, online exercises and examinations understanding on the methods and approaches to science is assessed.

2. Explain basic concepts and principles in one or more of the sciences.

This is accomplished through lecture material, the e-textbook, electronic modules that include comprehension assessment and discussions in the classroom.

3. Apply scientific principles to interpret and make predictions in one or more of the sciences.

Through online modules and in class problems often based on case studies, students work singly and in groups to create and examine scientific hypotheses and predictions.

4. Explain how scientific principles relate to issues of personal and/or public importance.

The abilities to acquire and evaluate information, think critically and assess the source of information are all important skills for global citizens. The principle topics in this course include scientific method, critical thinking, cell theory, genetics, evolution, metabolism, energy flow, anatomy and physiology (structure and function), ecology and biodiversity. These areas provide foundational information for human and environmental health issues that affect people across the planet. While this is not an applied course, case studies and other examples used in the class connect the basic principles of biology to the human condition.

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.

This course fulfills the Natural Science Explorations Category of Colonnade. Students will gain the ability to:

1. Demonstrate and understand the methods of scientific inquiry in biology
2. Explain basic concepts and principals in biology
3. Apply scientific principles to interpret and make predictions in biology
4. 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.

We will create a summative assessment with questions that target each of the four learning objectives listed above. There will be ten questions for each objective with a satisfactory score of 70%. This assessment will be executed via Blackboard at the end of the course for all sections.

Objective	Assessment Question Categories
the methods of scientific inquiry	<ul style="list-style-type: none">• Steps in the scientific method and their order• Composition of each step• Relationship of scientific method to hypothesis formulation and writing in biology• Inductive and Deductive reasoning – identification and role of each and the related concept of falsification• Evaluating the scientific validity of information gathering including related topics of beliefs, biases and models
basic concepts and principals	<ul style="list-style-type: none">• Critical Thinking & Scientific Method• Cell Theory, Macromolecules, Biochemistry• Genetics• Metabolism and Energy• Evolution• Structure and Function• Ecology and Biodiversity
scientific principles: interpret / make predictions	<ul style="list-style-type: none">• Aligning principles, hypotheses and predictions• Experimental design• Variables, data presentations and data interpretation• Evaluation of hypotheses and theories• Formulating of hypotheses and predictions
relate to everyday life	Based on the major concepts/principles shown above, applications to: <ul style="list-style-type: none">• conservation• human and environmental health• problem-solving• sustainability• technology

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

We will offer three sections on main campus during the day and one section in the evening, three to seven small sections at South Campus, one at the WKU-Glasgow campus and one online section per semester.

6. Please attach sample syllabus for the course.

Please find a generalized syllabus without any individual instructor information.

Please send your proposal to: robert.dietle@wku.edu

As of September 2013 to: molly.dunkum@wku.edu

Explanation for why the Department of Biology is requesting this course should be listed in the Natural Science Explorations Category of Colonnade along with other courses offered by the Department of Biology:

Biology 113/113C is the standard, broad-based, introductory biology course that covers basic biological concepts and processes. For students who wish to have a deeper experience in Biology, Biology 120 and 122 cover the same concepts as Biology 113/113C but cover them in more depth over a year's time rather than a single semester. For students who need to have a more focused exploration of biology, Biology 131/131C and 207/207C provide a look at basic biological concepts through a clinical lens. Each of these courses is open to any WKU student.

WKU Generalized Syllabus for BIOL 113/C: General Biology

Required

The mandatory text is provided in e-text format.

Natural Science Explorations Category of Colonnade

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Required:

E-text: Mader & Windelspecht ISBN 978-0-007-3525525 14th edition

READ BEFORE PURCHASING TEXTBOOK

The Biology Department at WKU has worked over the past year to develop a new model for textbook adoption. In order to save you some money, maximize your effective use of your textbook, increase learning and evaluate the best ways of teaching you difficult topics, we've entered into a partnership with McGraw-Hill publishers. By enrolling in this course, you agree to purchase the digital materials associated with this course. These materials include 12-month or 24-month (depending on the course) access to Connect, LearnSmart or LabSmart where appropriate, a downloadable e-copy of the textbook which is yours to keep, and the option to print a gray-scale copy of your textbook at greatly reduced cost. The cost per text, with all online materials, is \$75, about 35% to 50% the cost of purchasing a new textbook, even before purchasing online materials.

If you want a printed copy, that's about \$25, but you must order that through the WKU Store during the first week of class. In order to make these savings available to you, WKU must institutionalize the purchasing process. As a result, about two weeks into the semester, you will be billed the cost of the materials for the course. The nice thing about this is that you will have access to all the course materials from day one, without doing a thing! If you choose to drop the course during the regular add-drop period, you won't be charged for the book. You should note that for this course, you WILL be charged for the digital materials. Do NOT buy a copy of the book from online or local vendors. ONLY the digital format will be used in this course. If you are enrolling in a two-semester course sequence (Biol 131-231 or Biol 120-122), you have full access to the digital materials online for 24 months, plenty of time to take both courses and even take a semester off in between without paying twice for the materials. We anticipate that this approach to teaching will result in better learning and a more interesting classroom experience for you, and less stress on your spine!

Blackboard Entry

<http://www.wku.edu> (choose "Blackboard" from the pull down menu)

Grading

- Weekly pre- and post-class assignments
- Examinations and comprehensive final exam

A=at least 90% of total points; B= 80-89%; C=70-79%; D=60-69%; F= less than 60%

There is no extra credit for this course. Your grade will be assigned based upon how you perform on your test and quizzes. Grades are not given but rather, they are earned by *you*.

Topics in approximate order (tests are given after every 2-3 topics)

Introduction to Biology and the Scientific Method

Molecules of Life

Cell Theory, Cell Types, Structure, and Function

Mitosis / Meiosis and relevance to Human Biology

Metabolism, Respiration, & Photosynthesis

Genetics

Evolution

Ecology

Conservation Biology

POLICIES

General: The general policies are simple and based on respect. This involves:

- Attending class on time and remaining in the class the entire period until dismissed
- Paying attention in class and taking notes
- Turning off cell phones and beepers
- No excessive talking or inappropriate behavior (reading newspapers, making rude remarks etc.)

Academic Integrity and Misconduct: Do not cheat. Cheating is not only disrespectful (violating general policies) but it is also dishonest. Cheating on quizzes, exams or assignments will result in a failing grade for the course and could result in expulsion from the university. It is not worth it. Do your own work.

Attendance: Experience has shown that poor attendance in class results in poor grades. You must come to class to maximize all of the resources available to you to learn course material. If you are not in class, you will not know which information is stressed.

Deadlines: WKU sets deadlines for withdrawal from a class or the university. Credit for the course will not be changed to an audit after the university designated time due to a poor grade in the class. Please make note of these dates. Dropping the class after the university deadline requires a written explanation by you and signatures from the instructor, department head and the dean of Ogden College. These exceptions are only granted in extreme circumstances. So, ABIDE by the deadlines! These deadlines can be found at the following location: http://www.wku.edu/registrar/documents/regguide_fall.pdf [Ceasing to attend class does not drop you from the class. If circumstances arise that keep you from attending your classes, make sure that you go through the proper channels to withdraw.]

End of Semester:

- There is no “extra credit” for the course. Study hard, do well on the tests and quizzes.
- Final grades are posted in TOPNET.
- The grading scale is posted on this syllabus.
- There is absolutely no “making up” missed homework assignments.

Extra Help: If you are having difficulty in the course, please speak with the instructor. Be responsible - it is your responsibility to look up dates and pay attention to announcements discussed in class. Free assistance is available for Biology 113 through the Learning Center: Call 745-6254 for more information. (<http://www.wku.edu/tlc>)

Family Educational Rights and Privacy Act: Be familiar with your rights according to this Act.

Plagiarism is another form of misconduct. The university’s definition of plagiarism is: “To represent written work taken from another source as one’s own is plagiarism. Plagiarism is a serious offense. The academic work of a student must be his/her own. One must give any author credit for source material borrowed from him/her. To lift content directly from a source without giving credit is a flagrant act. To present a borrowed passage without reference to the source after having changed a few words is also plagiarism.”

Student Disability Services

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 the Office for Student Disability Services.