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 122 Biological Concepts: Evolution Diversity and Ecology
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. This learning is supplemented by the co-requisite laboratory course.

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 the scientific method, critical thinking, evolution, phylogeny, 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. This is a required course for biology majors and thus the principles are illustrated by and apply to all life forms on Earth.

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.

Natural Science Explorations Category of Colonnade
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	• 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	• Critical Thinking & Scientific Method • Metabolism • Evolution • Structure and Function • Ecology and Biodiversity
scientific principles: interpret / make predictions	• 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: • conservation • human and environmental health • problem-solving • sustainability • technology

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

We offer four sections on main campus and at the WKU-Glasgow campus, including an honors only section.

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:

While our Biology 113/113C is the standard, broad-based, introductory biology course that covers basic biological concepts and processes, our BIOL 122 course focuses on evolution, diversity and ecology at a greater depth than is covered in general biology course. As part of this course, we cover the methods of scientific inquiry, relevant concepts and principals, the application of the scientific method to this area of biology and we explain how this material relates to topics of personal importance. This course is open to any WKU student.

Generalized Syllabus for BIOL 122- Biological Concepts: Evolution, Diversity and Ecology

Online Materials. The textbook: Biology, 10th edition, by Raven, Johnson, Mason, Losos, and Singer and the learning assistant Connect, plus a downloadable e-copy of the textbook, which is yours to keep, and the option to print a gray-scale copy of your textbook is available at greatly reduced cost to you. 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 had to 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 will not 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 120-122), you have full access to the digital materials online for 24 months. We anticipate that this approach to teaching will result in better learning and a more interesting classroom experience for you.

Course content and goals: This course is designed for Biology and science majors and will emphasize the major biological areas beyond the micro-scale. Topics will include the tree of life, macroevolution, diversity of life forms (e.g., bacteria, protists, plants, fungi, animals), and ecology. This course requires that Biol 123 be taken as a corequisite. After a student completes this course they will have a foundational knowledge in the fields of evolution, biodiversity and ecology. Specifically, they will be able to:

- Appreciate the excitement for discovery and important scientific developments
- Demonstrate sound scientific reasoning and critical thinking skills
- Evaluate scientific data and express it orally, graphically and textually
- Understand the factual and theoretical basis of evolutionary change.
- Conduct survey of the diversity of life
- Appraise and evaluate biological knowledge in an ethical and social context with applications to society in such forms as for conservation and management.

Natural Science Explorations Category of Colonnade

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

ACADEMIC INTEGRITY: Students are expected to do their own work throughout this course and demonstrate academic integrity. Academic dishonesty in the form of cheating or plagiarism will not be tolerated. Please refer to the WKU Student handbook for polices and definitions regarding academic integrity at: http://www.wku.edu/Dept/Support/StuAffairs/StuLife/handbook/academicOffenses.htm

ACADEMIC MISCONDUCT: Dishonesty on quizzes, exams, or written assignments (see WKU's plagiarism statement below) will result in a failing grade for the class. Cheating (completing an assignment for someone else, allowing someone else to copy your assignment, copying and pasting from internet sources or elsewhere when you have not been instructed that this is acceptable, etc.) on online assignments will be tracked by computer. Cheating will not betolerated.

ASSIGNMENTS: Most of the assignments will be completed using the online resources associated with your e-text and on Blackboard. These assignments give you credit according to how well you answer the questions. It is interactive software that lets you restudy sections if you miss one of the assignment questions. Late assignments will **NOT** be accepted so complete them early! Each assignment will be due at midnight of the due date. Grades will be posted the following day. All the due dates for tests and assignments are posted well ahead of time (see the Course Information). If you find the assignment incomprehensible or need extra help, then be sure to email the instructor before the assignment is due or talk with the instructor after class or during a break.

ATTENDANCE: It is extremely important that you attend every class session in order to help you do your best in this course. You are expected to arrive **on time** and remain for the entire class period. Important course announcements are often given at the beginning of class. If you do miss a class, it is **your** responsibility to get any missed notes or handouts. Credit for the course will not be changed to an audit after the university designated time. You also cannot drop the class or change to Audit or Withdraw after the designated time.

CLASSROOM CIVILITY: Students are expected to assist in maintaining a classroom environment that is conducive to learning and respectful of the instructor and fellow students. The time spent in the classroom is to be a time of intellectual gain, thus students are prohibited from using cellular phones, laptop computers (if they are not being used to type notes), and beepers, making offensive remarks, reading newspapers, or engaging in any form of distraction. Inappropriate behavior shall result in, minimally, a request to leave class.

DISABILITY ACCOMODATIONS: "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, Room 101, Garrett Conference Center. The OFSDS telephone number is (270) 745-5004 V/TDD. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services."

> Note that if you require accommodations, you may be required to take exams at another location. Students should contact the Office of Correspondence Study, 105 Garrett Conference Center (745-4158) because this office is set up to make accommodations as specified by the Office for Student Disability Services. You will need to make arrangements with the instrutcor at the beginning of the semester to take your exams at a location, such as the Office of Correspondence Study, in order to receive your accommodations. If at any time during the semester you want to change your testing arrangements, you must see the instructor at least 3 days prior to the upcoming exam date. If you need extra time on assignments, you must make arrangements with the instructor PRIOR TO THE DUE DATE of the assignment.

EMAIL: Email is the best mechanism to reach most instructors if you have a question regarding the course. If your question can be answered by looking at the syllabus or Blackboard page (e.g. due dates, exam dates, policies), the instructor will not answer it.

EXAM FORMAT: No extra time will be given if you are late to class. **Exams** may include true/false, multiple choice, matching, diagrams, and other types of questions. Make-up exams will be given only for approved University excuses for the duration of the week of the exam (illness with a doctor's written excuse or death of a close relative) and will be administered during finals week. You must give your instructor an excuse note within a week of missing the exam or other assignment. The final exam is comprehensive. It covers all the material in Biology 122 and will be given ONLY during the time designated by WKU.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA): Due to the FERPA Act, if you are 18 years old or older, the instructor cannot discuss your grades, etc. with your parents.

GRADING: Pre/During/Post quizzes and assignments, examinations and final
Grading Scale: 90-100% **A** Outstanding; 80-89% **B** Above average; 70-79% **C** Average; 60-69% **D** Below Average; Below 60% **F** Failing

LEARNING & COMPUTERS - Learning takes effort, and research on college students has shown that students who invest more time in learning get better results! Many times students feel helpless when they experience difficulty in class. ... However, it is important that you take responsibility for your learning and build partnerships with your professors. Success is a choice. Your choice. To get what you want, it helps to know what you want and know how to go about it. ... Becoming a master student is a lifelong process. The final destination is up to you! Owning your own computer is not required for successful completion of this course. There are several computer labs located throughout the campus: at the Library, DUC, TCCW, etc. However, most students find that it is more convenient to have his/her own computer with access to the Internet (located in his/her own room). Since a computer can be the most valuable tool you can have while in college, it is strongly suggested that you purchase one.

PLAGIARISM DEFINITION at WKU: "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. Once 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."

WITHDRAWALS AND AUDITS: If you wish to audit or withdraw from the course you should do so by the dates mandated by the University. Be sure you are aware of these dates because credit for the course will not be changed to an audit after the university designated time. You also cannot drop the class or change to Audit or Withdraw after the designated time. Be aware that IT IS YOUR RESPONSIBILITY TO DROP THE CLASS. Do not assume that the instructor will do this for you. University policy states, "Students who, without previous arrangement with the instructor or department, fail to attend the first two class meetings of a course meeting multiple times per week or the first meeting of a class that meets one time per week MAY be dropped from the course; however, students are responsible for officially dropping any course for which they have enrolled."
Ceasing to attend class does not activate the drop, withdrawal, or incomplete grade processes. You must submit the appropriate forms for each by the published deadlines to end your enrollment in this class. Failure to complete the appropriate forms may result in a failing grade for this course.

WKU LEARNING CENTER

The Learning Center (TLC) is a program within the Academic Advising and Retention Center (AARC). The mission of TLC is to promote student success, enhance student performance, and increase student retention at Western Kentucky University. TLC helps students become better learners by providing tutoring, workshops, and outreach services. All services of TLC are free to WKU students. For more information, visit http://www.wku.edu/tlc

Peer Assisted Study Sessions (PASS)

Peer Assisted Study Sessions (PASS) is an academic assistance program that targets high enrollment/high failure rate courses. PASS utilizes undergraduate students as PASS Leaders to facilitate group study sessions. These leaders have successfully completed the course they lead with a grade of A or B, attend all class lectures, take notes, and hold two-weekly group study sessions. PASS sessions may contain one or more of the following: review of weekly materials, mock quizzes or tests, games, and other activities. All of these materials are designed to further solidify course material in a supplemental learning environment. Students who attend PASS sessions may receive insight on how to succeed in the course by learning note-taking tips, test-taking strategies and/or study strategies, or simply by receiving further explanation of specific content areas of the course. For more information about PASS, please call TLC at (270) 745-6439. http://www.wku.edu/tlc