



Course Approval Form

For approval of new courses and deletions or modifications to an existing course.

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

Create new course Inactivate existing course

Modify existing course (check all that apply)

Title Credits Repeat Status Grade Type

Prereq/coreq Schedule Type Restrictions

Other: _____

Course Level:

Undergraduate

Graduate

College/School: Department:

Submitted by: Ext: Email:

Subject Code: Effective Term: Fall Spring Summer Year

(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Title: Current Banner (30 characters max including spaces) New

Credits: (check one) 4 Fixed Variable or to Repeat Status: (check one) Not Repeatable (NR) Repeatable within degree (RD) Repeatable within term (RT) Maximum credits allowed:

Grade Mode: (check one) Regular (A, B, C, etc.) Satisfactory/No Credit Special (A, B, C, etc. +IP) Schedule Type: (check one) Lecture (LEC) Lab (LAB) Recitation (RCT) Internship (INT) Independent Study (IND) Seminar (SEM) Studio (STU)

Prerequisite(s): Corequisite(s):

Instructional Mode: 100% face-to-face Hybrid: ≤ 50% electronically delivered 100% electronically delivered

Restrictions Enforced by System: Major, College, Degree, Program, etc. Include Code.

Are there equivalent course(s)? Yes No If yes, please list

Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense) Classification, evolutionary trends, and distribution of common invertebrate fossils.	Notes (List additional information for the course) May include field trips
Indicate number of contact hours: _____ Hours of Lecture or Seminar per week: <input type="text" value="3"/> Hours of Lab or Studio: <input type="text" value="3"/>	
When Offered: (check all that apply) <input type="checkbox"/> Fall <input type="checkbox"/> Summer <input checked="" type="checkbox"/> Spring	

Approval Signatures

Department Approval _____ Date _____ College/School Approval _____ Date _____

If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Graduate Courses Only

Graduate Council Member _____ Provost Office _____ Graduate Council Approval Date _____

Course Proposal Submitted to the Curriculum Committee of the College of Science

1. COURSE NUMBER AND TITLE: Invertebrate Paleontology

Course Prerequisites/Co-requisite:

Either GEOL 101 and GEOL 102; or BIOL 103 and BIOL 104; or BIOL 213 and BIOL 310

Catalog Description:

Classification, evolutionary trends, and distribution of common invertebrate fossils.

2. COURSE JUSTIFICATION:

Course Objectives:

To further understanding of the evolutionary importance of invertebrates in the fossil record and as compared to today's organisms.

Course Necessity:

With all our majors and our requirement for 2 upper division laboratories, having more labs is good. Course has been offered as BIOL435 (special topics) and has been well received by students. If a separate Biology number we will be able to list it as an elective Biology laboratory course without having to do subwaivers.

Course Relationship to Existing Programs:

The course will expand the course choices for biology undergraduate students pursuing both a general biology major and those thinking of continuing on towards a medically related career in science.

Course Relationship to Existing Courses:

This course uses advanced topics to enhance students understanding of evolution .

3. APPROVAL HISTORY:

Course was approved by the biology curriculum committee.

4. SCHEDULING AND PROPOSED INSTRUCTORS:

Semester of Initial Offering:

Spring 2016

Proposed Instructors:

Stacey Verardo

INVERTEBRATE PALEONTOLOGY

Biology 336 and Geology 312

Spring -----

Instructor: Dr. Stacey Verardo

Contact information: Exploratory Hall 3451, office# 993-1045

Email: sverardo@gmu.edu

Lecture and Lab room: Exploratory Hall 1309

Texts:

MANDATORY: *Ancient Invertebrates and their Living Relatives*. Levin, Prentice Hall, 1999.

OPTIONAL: *Bringing Fossils to Life: An introduction to Paleobiology*, Prothero, McGraw-Hill, 1998.

Lab: Labs will be given out as handouts.

LECTURES

SECTION 1 -PALEOBIOLOGY

The Fossil Record
Fossil Variation
Species and speciation
Systematics
Evolution
Paleoecology
Biogeography
Biostratigraphy

SECTION 2 -PALEONTOLOGY

Early Life
Trace Fossils
Protista
Porifera
Cnidarians
Bryozoa
Brachiopoda
Mollusca
Arthropoda
Echinodermata
Hemichordata
Conodont

NOTE: There are THREE lecture exams.

There is ONE lab practical exam encompassing the fossils AND the lecture material associated with it.

COURSE REQUIREMENTS

1. **Attendance** at all scheduled lecture and laboratory sections are required to achieve the requisite level of knowledge in this course.

2. Grading

60% of your total Paleontology grade will be from two lecture exams. Each will be equally weighted at 30% for the class.

30% of the total grades will come from the lab grade. Individual lab grades incorporate 15% of the grade and one lab practicum (i.e. fossil ID exam) equals 15% of the grade. One of the labs will be a Museum field trip to be completed on your own time.

10% of the grade will be from a presentation to the class on one of the topics listed above.

Each team will have a separate topic.

Make up exams will NOT be given

All exams will emphasize material presented in the lectures

Students are responsible for all material in the textbook readings

Exams are closed book

Note:

(1) Laboratory exercises supplement lectures and provide "hands-on" experience for lecture topics.

INVERTEBRATE PALEONTOLOGY LAB

MANDATORY: You must have a sketch pad, pencils and a good eraser.

Week 1	NO LAB
Week 2	Sketch
Week 3	Sedimentary and Tectonic Settings
Week 4	Protists and Sessile Invertebrates
Week 5	Lecture EXAM
Week 6	Mobile Invertebrates
Week 7	Trace fossils and protists
Week 8	SPRING BREAK
Week 9	sponges and cnidaria
Week 10	Lecture EXAM
Week 11	lophopores
Week 12	molluscs
Week 13	arthropods and echinoderms
Week 14	Paleo presentations
Week 15	Lab practical
