Course Approval Form

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

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

- [X] 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
- [X] Graduate

College/School: College of Science
Department: Chemistry and Biochemistry
Submitted by: Barney Bishop
Ext: 993-8302
Email: bbishop1@gmu.edu

Subject Code: CHEM
Number: 896
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Effective Term:

- [X] Fall
- [ ] Spring
- [ ] Summer

Year 2013

Title:
Current
Banner (30 characters max including spaces): Doctoral Dir Reading and Rsrch
New: Doctoral Directed Reading and Research

Credits: (check one)

- [ ] Fixed
- [X] Variable

1 to 6 (or)

Repeat Status: (check one)

- [ ] Not Repeatable (NR)
- [X] Repeatable within degree (RD)
- [ ] Repeatable within term (RT)

Maximum credits allowed: 15

Grade Mode: (check one)

- [X] Regular (A, B, C, etc.)
- [ ] Satisfactory/No Credit
- [ ] Special (A, B C, etc. +IP)

Schedule Type: (check one) LEC can include LAB or RCT

- [ ] Lecture (LEC)
- [ ] Lab (LAB)
- [ ] Recitation (RCT)
- [ ] Internship (INT)
- [X] Independent Study (IND)
- [ ] Seminar (SEM)
- [ ] Studio (STU)

Prerequisite(s):
Admission to the Ph.D. in Chemistry and Biochemistry or affiliated programs

Corequisite(s):

Instructional Mode:

- [X] 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
- [X] 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)	**Notes** (List additional information for the course)
Reading and research on a specific topic in Chemistry or Biochemistry under direction of a faculty member. May be repeated for up to a total of 15 credits.	

Indicate number of contact hours: Hours of Lecture or Seminar per week: 0 Hours of Lab or Studio: 0

When Offered: (check all that apply) [X] Fall [X] Summer [X] 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

For Registrar Office's Use Only: Banner_____Catalog_____

revised 11/8/11

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

1. COURSE NUMBER AND TITLE: CHEM 896: Doctoral Directed Reading and Research

Course Prerequisites: Admission to the Ph.D. program in Chemistry and Biochemistry or affiliated programs

Catalog Description: Reading and research on a specific topic in Chemistry or Biochemistry under direction of a faculty member. May be repeated for up to a total of 15 credits.

2. COURSE JUSTIFICATION:

Course Objectives: This course will instruct students in the identification of relevant research problems and teach them how to experimentally address these problems. Students will work directly with a faculty member in the identification of an unanswered research problem. They will be required to read the relevant literature on the topic and form a plausible and testable hypothesis and will then carry out experiments to prove or disprove their hypothesis. Students are expected to both identify a research problem as well as perform the lab work needed to address the hypothesis. A final written and oral report will be required.

Course Necessity: The Chemistry and Biochemistry Department is in the process of strengthening its current graduate program by increasing the quantity and quality of research. This course presents a formal setting under which students will be instructed on how to read the scientific literature, use this information to formulate novel hypotheses, and then outline and perform experiments to test these hypotheses. As such, students will be instructed in the practical issues of the scientific method. No current courses exist in the Chemistry and Biochemistry department that allow for this type of instruction. The course is repeatable for credit in order to allow students adequate time to formulate and test their hypotheses.

Course Relationship to Existing Programs: This course is primarily intended for students in the Ph.D. program in Chemistry and Biochemistry. Students in affiliated programs who are working in the laboratories of Chemistry and Biochemistry department faculty are also eligible to take this course.

Course Relationship to Existing Courses: Other departments have similar courses, although no overlap will occur as this course is reserved for students working in laboratories within the Department of Chemistry and Biochemistry.

3. APPROVAL HISTORY: Approved by the Department of Chemistry and Biochemistry on Dec 14, 2012.

4. SCHEDULING AND PROPOSED INSTRUCTORS:

Semester of Initial Offering: Fall 2013

Proposed Instructors: All faculty within the Department of Chemistry and Biochemistry are eligible to be instructors for this class.

5. TENTATIVE SYLLABUS: No specific syllabus exists for this class since each faculty member will have a different research focus and a different schedule of availability. Instructors are expected to meet with students weekly to discuss research progress. Instructors will also be involved in guiding the writing of the final project report and in completion of the research.