



# Course Approval Form

For instructions see:  
<http://registrar.gmu.edu/facultystaff/catalog-revisions/course/>

### Action Requested:

Create new course     Inactivate existing course     Reinstate inactive course     Undergraduate

Modify existing course (check all that apply)

Title     Credits     Repeat Status     Grade Type     Graduate

Prereq/coreq     Schedule Type     Restrictions

Other: \_\_\_\_\_

College/School:  Department:

Submitted by:  Ext:  Email:

Subject Code:  Number:  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 w/ spaces)  New

Fulfills Mason Core Req? (undergrad only)

Currently fulfills requirement

Submission in progress

Credits: (check one)  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):

Graduate standing, or permission of instructor.

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)

|  |   |
|--|---|
| <b>Description</b> (No more than 60 words, use verb phrases and present tense)   | <b>Notes</b> (List additional information for the course)   |
| Introduction to methods and tools for pairwise sequence comparison, multiple sequence alignment, phylogenetic analysis, protein structure prediction and comparison, database similarity searches, and discovery of conserved patterns in protein sequence and structures. |   |
| 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="0"/> |
| 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 \_\_\_\_\_

For Registrar Office's Use Only: Banner \_\_\_\_\_ Catalog \_\_\_\_\_

revised 10/16/14

# Course Proposal Submitted to the College of Science Curriculum Committee (COSCC)

Course Number and Title: BINF 530 Introduction to Bioinformatics Methods

Date of Departmental Approval:

- Reason for the New Course: Introductory course offered for the Graduate Certificate and Master's programs in BCB
- Relationship to Existing Programs: We are assigning a new number to a required course for the Certificate program. It will be cross-listed with an existing course in the Master's program.
- Relationship to Existing Courses: Cross-listed with BINF 630
- Semester of Initial Offering: Spring 2016
- Proposed Instructors: Dr. Iosif Vaisman
- Insert Tentative Syllabus Below

## **BINF 530- Introduction to Bioinformatics Methods**

- 3 credits
- Instructor: [Iosif Vaisman](#)  
Office: OB, Room 312  
Office Hours: By appointment  
Phone: 703-993-8431
- **Course description:** The course covers theoretical approaches, techniques and computational tools for DNA and protein sequence and structure analysis. The topics also include biological databases and internet-based bioinformatics resources.
- **Grading:** grades will be based on homework assignments (33% + 33%) and final exam (34%).
- **Textbook:**
- Marketa J Zvelebil, Jeremy O Baum  
[Understanding bioinformatics](#)  
New York: Garland Science, 2008.
- [Syllabus](#)
- [Lecture 1, 1/22/2015](#), A1, A18  
[Lecture 2, 1/29/2015](#), A10, Ch.3  
[Lecture 3, 2/5/2015](#), A16, A19, Ch.3  
[Lecture 4, 2/12/2015](#), A11  
[Lecture 5, 2/19/2015](#), A11  
[Lecture 6, 2/26/2015](#), A7, A13, A14, Ch.4.1-4.7, Ch.5
- [Lecture 6, 2/28/2013](#), Ch.6, Ch.4.8-4.10  
[Lecture 7, 3/7/2013](#), Ch.4.8, Ch.6.6  
[Lecture 8, 3/21/2013](#), A17, Ch.9, Ch.10

[Lecture 9, 3/28/2013](#), Ch.2,11,12

[Lecture 10, 4/4/2013](#), Ch.2,11

[Lecture 11, 4/11/2013](#), Ch.2

[Lecture 12, 4/18/2013](#), Ch.13

[Lecture 13, 4/22/2013](#),

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- [Review topics](#)

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[Reading Materials](#)

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- [Exercises](#)