

# **Course Approval Form**

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

Action Requested: X Create new course Inactivate	existing course	Reinstate ina	ctive course	Course Level:
Modify existing course (check all that apply)	J			
Title Credits Prereq/coreq Schedule Type Other:	Repeat Status Restrictions	Grade Type	[	X Graduate
College/School: College of Science	r	)epartment:	School of Sv	ustems Biology
Submitted by:	E	Ext:	En	nail:
		<u> </u>		
Subject Code: BINF Number: 0 (Do not list multiple codes or numbers. Each course prophave a separate form.)	550 Eff	fective Term:	X Fall Spring Summer	Year 2015
Title: Current			Fulfills Maso	n Core Rea? (undergrad only)
Banner (30 characters max w/ spaces)		I	Currently fu	ulfills requirement
New Introduction to Bioinformatic	s Database Design		Submission	n in progress
Credits: X Fixed or 3   (check one) Variable to	Repeat Status: (check one)	X Not Repeata Repeatable v Repeatable v	ble (NR) vithin degree (RE vithin term (RT)	D) Maximum credits 3 allowed:
Grade Mode: X Regular (A, B, C, etc.)	Schedule Tv	oe: X Lec	ture (LEC)	Independent Study (IND)
(check one) Satisfactory/No Credit	(check one)	Lab	(LAB)	Seminar (SEM)
Special (A, B C, etc. +IP)	LEC can include LAB or RCT	Rec	itation (RCT)	Studio (STU)
		Inte	msnip (mri)	
Prerequisite(s):	Corequisite(s):			Instructional Mode:
				100% face-to-face
Introductory computer programming				X Hybrid: $\leq$ 50% electronically delive
course, or permission of the instructor.				100% electronically delivered
Restrictions Enforced by System: Major	College Degree Proc	ram etc. Inclu	de Code	Are there equivalent course(s)?
Restrictions Enforced by System. Major, C	Jollege, Degree, 1 Tog	grann, etc. metu	de Code.	X Yes No
				If yes, please list BINF 650
			<u> </u>	
Catalog Copy for NEW Courses Only (	Consult University Cata	log for models)		
Description (No more than 60 words, use verb ph	rases and present tens	e) Notes (Li	st additional infor	rmation for the course)
Students will acquire skills needed to exploit public	biological databases, a	and		
Skills include learning underlying data models and	the basics of DBMS an	d		
SQL.		-		
Indicate number of contact hours:	ours of Lecture or Semi	har ber week:	3	Hours of Lab or Studio: 0
When Offered: (check all that apply)	all Summer	Spring	· '	
Approval Signatures				
Department Approval	Date	College/School	Approval	Date
If this course includes subject matter currently	dealt with by any oth	er units the origi	nating department	nt must circulate this proposal for review
those units and obtain the necessary signatures p	rior to submission. Failu	re to do so will de	elay action on this	s proposal.
Unit Name Unit App	oval Name	Unit Approver	's Signature	Date
l			-	
<u></u>	L			1
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 Number and Title: BINF 550 Introduction to Bioinformatics Database Design

Date of Departmental Approval:

- Reason for the New Course: Introductory course offered for the Graduate Certificate in BCB
- Relationship to Existing Programs: We are assigning a new number to an elective 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 650
- Semester of Initial Offering: Fall 2015
- Proposed Instructors: Dr. Jason Kinser

Insert Tentative Syllabus Below

# BINF 550 Fall 2015

1 Information

Course: BINF 550 / 650 Introduction to Databases Instructor: Jason M. Kinser D.Sc. Time: TBD Campus: Prince William Textbook: Provided – although students are encouraged to get a MySQL reference.

### **2 Course Intent**

This introductory course is intended for students with very little knowledge of how databases work. This course will introduce concepts in creating a database and creating efficient queries for the database. Students will also be introduced to methods of creating graphic interfaces in both stand-alone programs and web pages to access databases.

## 3 Grading

Homework: 25% Midterm: 20% Final: 20% Final Project: 25% Class Participation: 10%

### 4 Honor Code

#### http://oai.gmu.edu/honor-code

Violations of the Honor Code include but are not limited to:

- Copying work from other students (even if it is from other schools and other semesters).
- Copying work from other documents without citation.
- · Copying exam answers.

• Having someone else do your work.

If there are any questions please ask me so we can clarify the situation. The main reason that people cheat is because they get behind. It would be much better to meet with me about the situation rather than attempting to cheat.

There are no second chances when it comes to Honor Code violations.

#### **5** Resources

Office of Academic Integrity: http://oai.gmu.edu Office of Disability Services: http://ods.gmu.edu

## 6 Tentative Schedule - TBD

#### **Weekly Topics**

Introduction, Simple data, Spreadsheets
Intro to MySQL, tables, simplest queries, interfaces
Creation of DB and tables, Basic queries, Efficient queries
Multiple tables, part 1
Multiple tables, part 2
Genbank data, sorting, subqueries
MIDTERM EXAM
Views, Table design, Midterm review
Graph theory, Kevin Bacon, trees
Introduction to Python
Python and MySQL
Python CGI
Project Presentations
FINAL EXAM