Course Approval Form

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

Action Requested:  
☐ Create new course  ☐ Inactivate existing course
☐ Modify existing course (check all that apply)
☐ Title
☐ Prereq/coreq
☐ Other:

Course Level:  
☐ Undergraduate  ☑ Graduate

College/School: College of Science  
Submitted by: D. Papaconstantopoulos

Department: CDS  
Ext: 3-3624  
Email: dpapacon@gmu.edu

Subject Code: CSI  
Number: 780

Effective Term:  
☐ Fall  ☑ Spring  Year 2015
☐ Summer

Title:  
Current: Computational Physics and Applications
New: Principles of Modeling and Simulation in Science

Fulfills Mason Core Req? (undergrad only)  
☐ Currently fulfills requirement  ☐ Submission in progress

Credits:  
☐ Fixed  ☑ Variable
to

Repeat Status:  
☐ Not Repeatable (NR)
☐ Repeatable within degree (RD)
☐ Repeatable within term (RT)

Grade Mode:  
(check one)  
☐ Regular (A, B, C, etc.)
☐ Satisfactory/No Credit
☐ Special (A, B, C, etc. +IP)

Schedule Type:  
☐ Lecture (LEC)
☐ Lab (LAB)
☐ Recitation (RCT)
☐ Internship (INT)
☐ Seminar (SEM)
☐ Studio (STU)

Prerequisite(s):  
Competency in programming at CSI 501 level and college physics, or permission of instructor

Corequisite(s):  

Restrictions Enforced by System: Major, College, Degree, Program, etc. (include code)

Equivalencies: (check only as applicable)  
☐ YES, course is 100% equivalent to: ______________________
☐ YES, course is being renumbered to/will replace the following: ______________________

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)

Indicate number of contact hours:  

When Offered: (check all that apply)  
☐ Fall  ☑ Summer  ☑ Spring

Hours of Lecture or Seminar per week:  

Hours of Lab or Studio:  

Approval Signatures

10/14/2015

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.

For Graduate Courses Only

Graduate Council Member  
Provost Office  
Graduate Council Approval Date

For Registrar Office’s Use Only: Banner ____________________________ Catalog ____________________________

revised 6/22/15
FOR ALL COURSES (required)
Course Number and Title: Principles of Modeling and Simulation in Science

Date of Departmental Approval: 9/4/2015

FOR MODIFIED COURSES

• Summary of the Modification:
  Modification of the title and prerequisites

• Text before Modification:
  Title: Computational Physics and Applications
  Prerequisites: PHYS 502; FORTRAN, C, or C++ programming; or permission of instructor
  Equivalence; course is equivalent to PHYS 613 Computational Physics II

• Text after Modification (title, repeat status, catalog description, etc.):
  Title: Principles of Modeling and Simulation in Science
  Prerequisites: Competency in programming at CSI 501 level or permission of instructor
  Equivalence: The course is no longer equivalent to other courses

• Reason for the Modification:
  Currently, CSI 780 title reflects poorly the purpose of the course and the prerequisites do not need material relevant to PHYS 502 Introduction to Quantum Mechanics and Atomic Physics. Instead, students need competency in programming at the level of CSI 501, which is a programming course offered regularly in support of modeling and simulation.
  The equivalence with PHYS 613 is a legacy never corrected. Currently title, catalog description and prerequisites are all different. Equivalence is therefore misleading for the students.