



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 ☐ Credits ☐ Repeat Status ☐ Grade Type
- ☒ Prereq/coreq ☐ Schedule Type ☐ Restrictions
- ☒ Other: 1) Remove equivalence to deleted course PHYS 728 and 2) modified catalog description

Course Level:

- ☐ Undergraduate
- ☒ Graduate

College/School: College of Science Department: CDS
Submitted by: Matthias Renz Ext: 3-5873 Email: mrenz@gmu.edu

Subject Code: CSI Number: 788 Effective Term: ☐ Fall ☒ Spring Year: 2017
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Title: Current Simulation of Large Scale Physical Systems
Banner (30 characters max w/ spaces) Simulation Large Scale Syst.
New Simulation of Large Scale Systems

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

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

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

Prerequisite(s): Corequisite(s): Instructional Mode:
CSI 690 or permission of instructor ☒ 100% face-to-face
☐ Hybrid: ≤ 50% electronically delivered
☐ 100% electronically delivered

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: Hours of Lecture or Seminar per week: Hours of Lab or Studio:
When Offered: (check all that apply) ☐ Fall ☐ Summer ☐ Spring

Approval Signatures

Department Approval: _____ Date: 2016 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 College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference.
Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL COURSES (required)

Course Number and Title: 788 Simulation of Large Scale Systems

Date of Departmental Approval: 2016

FOR MODIFIED COURSES

- Summary of the Modification:
Modification of title, prerequisites, obsolete equivalence, and catalog description
Text before Modification (title): Simulation of Large Scale Physical Systems
Text before Modification (prerequisites): PHYS 613/CSI 780 and CSI 700 or permission of instructor.
Text before Modification (equivalence): Equivalent to PHYS 728
Text before Modification (catalog description): Study of diverse, large-scale physical systems with emphasis on modeling and simulation. Students will undertake several projects which will draw from such areas as many-body dynamics, atmospheric structure and dynamics, high-temperature plasmas, stellar structure, hydro dynamical systems, galactic structure and interactions, and cosmology.
- Text after Modification (title): Simulation of Large Scale Systems
- Text after Modification (prerequisites): CSI 690 or permission of instructor
- Text after Modification (equivalence): no equivalence to any course
- Text before Modification (catalog description): Study of diverse, large-scale systems with an emphasis on modeling and simulation. Several projects are undertaken, drawn from current scientific endeavors involving large data systems including systems in biology, chemistry, informatics, materials science, physics, and society.
- Reason for the Modification:

Title: Currently, students in the CSI PhD and COMP MS have diverse academic backgrounds strong in math, engineering, computer science, etc and not necessarily in the physical sciences. The new title is more general and fits better in the general description of the emphasis on Modeling and Simulation of the COMP and CSI PhD academic programs.

Prerequisites: This is an update that should have had to take place in previous catalog modifications but didn't. The CSI 700 course has been renumbered to CSI 690 a few years ago. Additionally, the CSI 788 content is independent of concepts in either CSI 780 or PHYS 613.

Equivalence: The equivalence to a deleted course (PHYS 728) should be eliminated from the catalog.

Catalog Description: Description adapted to the new title and content of CSI 788 that goes beyond systems in physics and better addresses the diverse academic backgrounds of the students that want to take this course.
