Course Approval Form

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

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

- [ ] Create new course
- [ ] Inactivate existing course
- [x] Modify existing course (check all that apply)
  - [ ] Title
  - [ ] Credits
  - [ ] Repeat Status
  - [ ] Grade Type
  - [x] Prereq/coreq
  - [ ] Schedule Type
  - [ ] Restrictions
  - [ ] Other: _____

Course Level:

- [ ] Undergraduate
- [x] Graduate

College/School: COS **Department:** SPACS
Submitted by: Estela Blaisten **Ext:** _____ **Email:** blaisten@gmu.edu

Subject Code: CSI **Number:** 786
(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: Molecular Dynamics Modeling
Banner (30 characters max including spaces): Molecular Dynamics Modeling
New: _____

Credits: (check one) [3] Fixed [ ] Variable — [x] or [ ] to

Repeat Status: (check one)
- [x] Not Repeatable (NR)
- [ ] Repeatable within degree (RD)
- [ ] Repeatable within term (RT)

Maximum credits allowed: _____

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

Prerequisite(s):
CSI 690 or equivalent, CSI 780 or CHEM 633/CSI 711, or permission of instructor

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)

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 _____
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: CSI 786 Molecular Dynamics Modeling

Course Prerequisites:
NEW: CSI 690 or equivalent, CSI 780/PHYS 613 or CHEM 633/CSI 711, or permission of instructor
OLD: PHYS 613/CSI 780 or CHEM 633/CSI 711, or permission of instructor
Catalog Description: ***I****ntroduces simulation methods in physical chemistry sciences. Covers computational approaches to modeling molecular and condensed matter systems, including interatomic and molecular potentials, molecular dynamics, time averages, ensemble distributions, numerical sampling, thermodynamic functions, response theory, transport coefficients, and dynamic structure. Includes stochastic simulations such as Brownian motion, Langevin dynamics, Monte Carlo methods and random walks, and introduction to cellular automata.*
Rationale for the modification: CSI 690 is added to the prerequisites.

2. COURSE JUSTIFICATION:

Course Objectives:

Course Necessity:

Course Relationship to Existing Programs:

Course Relationship to Existing Courses:

3. APPROVAL HISTORY:

4. SCHEDULING AND PROPOSED INSTRUCTORS:

Semester of Initial Offering:

Proposed Instructors:

5. TENTATIVE SYLLABUS: