GEORGE MASON UNIVERSITY

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:** 701 **Effective Term:** [x] Fall

(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

    [ ] Spring *Year* 2013

    [ ] Summer

Title:

Current: Foundations of Computational Science

Banner (30 characters max including spaces): Foundations Computational Science

New: _____

Credits: 3 [x] Fixed _____ or **Repeat Status:** [x] Not Repeatable (NR)

(check one) [ ] Variable _____ to _____ (check one) [ ] 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):

Competency in UNIX and programming at CSI 501 level, and CSI 690; 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 [ ] 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 701 Foundations of Computational Science

Course Prerequisites:
NEW: Competency in Linux and programming at CSI 501 level, and CSI 690, or permission of instructor
OLD: Competency in UNIX and programming at CSI 601-604 level, and CSI 700, or permission of instructor
Catalog Description: Covers mapping of mathematical models to computer software, including all aspects of developing scientific software such as architecture, data structures, advanced numerical algorithms, languages, documentation, optimization, validation, verification, and software reuse. Examples in bioinformatics, computational biology, computational physics, and global change demonstrate scientific advances enabled by computation. Class projects involve working in teams to develop software that implements mathematical models, using software to address important scientific questions, and conducting computational experiments with it.
Rationale for the modification: CSI 601-604 have been deleted and replaced by CSI 501. The CSI 700 has been renumbered to CSI 690.

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: