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
- [ ] Delete existing course
- [x] Modify existing course (check all that apply)
  - [ ] Title
  - [ ] Credits
  - [ ] Repeat Status
  - [ ] Grade Type
  - [ ] Prereq/coreq
  - [ ] Schedule Type
  - [ ] Restrictions
  - [ ] Other: Catalog description

Course Level:

- [ ] Undergraduate
- [x] Graduate

College/School: CSI
Department: CDS
Submitted by: Jason Kinser
Ext: 3-3785
Email: jkinser@gmu.edu

Subject Code: CSI
Number: 758
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Effective Term:

- [x] Fall
- [ ] Spring
- [ ] Summer

Year 2016

Title:

- Current: Visualization and Modeling of Complex Systems
- Banner (30 characters max including spaces):
- New:

Credits: (check one)

- [x] Fixed — 3 or
- [ ] Variable — to

Repeat Status: (check one)

- [ ] 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 Code(s): (check all that apply)

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

Prerequisite(s):	Corequisite(s):
CSI 500 or instructors approval	

Instructional Mode:

- [x] 100% face-to-face
- [ ] Hybrid: ≤ 50% electronically delivered
- [ ] 100% electronically delivered

Special Instructions: (list restrictions for major, college, or degree;hard-coding; etc.)

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 [x] 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 2/2/10

Previous Description of CSI 758

Covers elements of modeling and analysis of Earth and space sciences data and systems. Concentrates on sample projects and student-initiated projects to use visualization and graphical analysis techniques as they apply to modeling of complex data sets and systems. Uses several different analysis and visualization packages. Spacecraft data sets from the Naval Research Laboratory (NRL) Backgrounds Data Center and other NRL data sets are available for course projects; perusal of web data sets also possible. Modeling and analysis accompanied by appropriate readings from current literature.

Proposed Description

Covers elements of modeling and analysis for scientific applications. Concentrates on sample projects and student-initiated projects to use visualization, image and graphical analysis as they apply to modeling of complex data sets and systems. Reviews methods of creating and generating analysis and visualization packages. Data sets from multiple sources will be used. Modeling and analysis accompanied by appropriate readings from current literature.

Justification

Methods of modeling and analysis are rapidly changing in this era of "big data." It is necessary, therefore, to keep pace with this evolving field and offer students the ability to prosper in these areas. The original course description was developed with a particular scientific field in mind. As the Computational and Data Sciences department evolves it is necessary to modify some courses to be more amenable to the talent structure that employers seek. Towards this goal the proposed change relaxes the restrictive nature of the previous course to include modeling and analysis of various types of data rather than a restriction to a single type.