DSC Faculty Meeting
October 21, 2013
499 DSL – 3:30 PM

I. Meeting of the DSC Faculty was held on Monday, October 21, 2013, DSC Chair Max Gunzburger presided.

II. The following faculty members attended the meeting: P. Beerli, G. Erlebacher, A. Lemmon, A. Meyer-Baese, M. Navon, J. Peterson, S. Shangbhag, D. Slice, X. Wang and M.Ye and J. Burkardt.

III. The following faculty members were absent: T. Plewa .

IV. Announcements and Discussion:

Dr. Ostrander, V.P. for Research attended with a question and answer session.

Discussion concerning the Gateway course.

V. Two proposals were discussed by the Undergraduate Committee.

1. The following schedule proposed for the language used in ISC 3313:
   Fall 2013: Java
   Spring 2014: C++

   Fall 2014: Fortran
   Spring 2015: Java

   Fall 2015: C++
   Spring 2016: Fortran

   Fall 2016: Java
   Spring 2016: C++
2. The 3-credit course "ISC 4943: Practicum" be renamed to "ISC 4942: Research in Scientific Computing"; the requirement for oral and written presentation of research will be dropped from the course. The course will be offered for both Fall and Spring semesters.
   The 1 credit course "ISC 4932: Senior Seminar" will be renamed to "ISC 4942: Senior Research Presentation", and will be redesigned to have students prepare a written presentation of their research, and have to make an oral presentation as well. The course will be offered for both Fall and Spring semesters.
   Students must take ISC 4943 and ISC 4942 once in their senior year.
   If students take ISC 4943 twice, one time counts for graduation requirement, the second as a departmental elective. Further times are allowed, but do not count towards departmental requirements.

Both proposals were voted on and passed by a unanimous vote.

VI. Two proposal was discussed by the Graduate Committee.

Problems:

1. ACS I and especially ACS II cover too many topics and the students feel a little bit rushed.
2. ACS II is not an easy course for a single instructor to teach given the breadth of topics covered
3. Students with stronger background in programming find the Programming course too slow.

Proposed Changes

1. Move data structure from ACS I to Programming course. **Reasoning**: The rest of ACS1 follows a standard numerical analysis course. This topic is an outlier.
2. Move parallel computing from ACS II to Programming course. **Reasoning**: Reduce load in ACS II, and fits in nicely with Programming.
3. Remove the Java and Fortran language from Programming course. **Reasoning**: If we put something in, we need to take some stuff out. Remove molecular dynamics from ACS II. **Reasoning**: Obvious misfit. Takes up 4 lectures, can be done as a lab in ACS 1 on ODEs.
4. SUMMARY
   Programming: C++, parallel programming, data-structures.
   ACS I: remove data-structures, integrate or Fourier analysis
   ACS II: PDE + optimization, Statistics + MCMC (add)

Note 1: Currently, the Programming course teaches C++, Java and Fortran all these three languages. But most of the time is focusing on C++. Java and Fortran only takes one fourth to one third of the time. Adding another scripting language probably is not practical if we move data structure and parallel computing into Programming course.
Note 2: Most of the students for the Programming course are from Math department. They require the student to learn C++. No requirements for other languages.
Note 3: Math department also has no requirement for the parallel programming part.
Note 4: Need for Markov Chain Monte Carlo felt among many students and faculty.

The Programming proposal was voted on and passed by a unanimous vote.
The ACS I & II proposal was not voted on due to more discussion.

VII. The Meeting was adjourned.