Changes to the B.S. Degree in Informatics
Donald Bren School of Information and Computer Sciences

Plan and Rationale
Currently the Informatics major is one-size-fits-all. Students interested in being software developers take all the same required courses as students interested in being user experience designers or information technology analysts. We propose identifying a smaller set of universally required courses and then requiring students to designate a specialization in an area that fits their interests more closely. To start with, we propose specialization in:

- Software Engineering
- Human-Computer Interaction
- Organizations and Information Technology

We propose this plan because:

- Specializations would allow students to tailor their program to their interests (and to avoid advanced, specialized courses on topics that do not apply to their career goals). At the same time, specializations provide more guidance towards a coherent set of courses than simply allowing students to choose any set of upper division courses in the department or school.

- Specializations would give students greater flexibility in their studies (fewer required units means more electives, less chance of being dependent on a specific course in a specific quarter, and greater likelihood of finishing on time).

- The specializations give us recognizable names with official status; students can recognize them in the catalogue, on the web, or in brochures we produce.

- The Informatics program is requirement-heavy, along the lines of the CS/ICS/CSE degrees and engineering degrees. The campus has long disfavored degrees that require more units than the baseline 180 that the university requires for graduation; by not requiring every course of every student as we do now, we have reduced the number of required units (including General Education) to 160 in each specialization.

- Our most recent external review criticized the program for requiring too many different courses. This proposal addresses that concern.

- It would be easy to add additional specializations in the future, such as medical informatics, mobile/ubiquitous computing, or games; we would just need to create or identify more undergraduate courses in those areas.

Existing Requirements

Major Requirements
Lower-division:
A. Introductory courses: Informatics 41, 42, 43, 44.
B. ICS 23 or Informatics 45.

Upper-division:
B. CS 122A, CS 122B.
C. Advanced Informatics courses: Informatics 122, 123, 141, 143, 151, 153, 161, 162, 163, 191A, 191B, 191C.

Proposed Requirements

Major Requirements

Lower-division [no change]:
A. Introductory courses: Informatics 41, 42, 43, 44.
B. ICS 23 or Informatics 45.

Upper-division:
A. Informatics Core requirements: Informatics 113, 121, 131, 151, 161, 191A, 191B, 191C.
B. One of the following specializations:

   **Software Engineering specialization:** Informatics 101, 102, 111, 115, 117, 122, 123, 133, Computer Science 122A, and one additional course chosen from Informatics 100–199, EECS 118, Management 107, Management 159.

   **Human-Computer Interaction specialization:** Informatics 132; three courses chosen from Informatics 133, 141, 143, 153, 162, 171, Cognitive Science 143H; two project courses chosen from 125, 134, 148, 163; four additional courses chosen from Informatics 100–190 or Public Health 166.

   **Organizations and Information Technology specialization:** (a) Informatics 141, 162, 163, Management 5, Management 102. (b) Four additional courses chosen from: Management 107, 159, 162, 170, 173, 175, and 178; Psychology and Social Behavior 9, 104S, 176S, and 180S; Sociology 41, 135, 141, 143, and 145; Informatics 100–199. (c) Two additional courses chosen from Informatics 100–199 or Computer Science 100–199.

Potential Overlap

The OIT specialization differs from the major in Business Information Management: BIM is much more quantitatively oriented, with a focus on analyzing business data (today nearly always the product of information systems) to make business decisions. OIT focuses on organizations: evaluating their information needs, designing information systems to meet those needs, and analyzing the systems’ impact on the organization.