Update by P. Brunese, S. Nof, 2/3/12

School of IE **Fall/Spring 2012**

Interdisciplinary Undergraduate Concentration in Software Engineering

2011/12 IE/SE Committee: V.G. Duffy, S.Y. Nof (coordinator), J.S. Yi, S.J. Landry, P. Brunese

Application Requirements:

Students apply to enter this interdisciplinary concentration at the end of their sophomore year. Students are selected by the Software Engineering (SE) Committee based on a solid grounding in computing (at least a B in CS 15900/CS 18000, ENGR 13100, and ENGR 13200 or equivalent) and the results of an interview with the IE/SE Committee. Formal acceptance is no later than the beginning of the junior year, following the student's first internship. When applying to any member of the IE/SE committee members, please explain your motivation to apply, accomplished requirements, and plan of internships and courses (per the suggestions below).

Concentration Requirements:

1. Foundation course (FC): IE 48600; and/or* CS 30700 Software Engineering
2. IE/SE Core course: IE 33200
3. Team Project: IE 43100
4. Relevant areas: 6 credits – students will take 2 courses from 3 distinct areas (shown below)
5. Internships: Two summers, 8-weeks each in a software development/application group, summer between sophomore and junior year, and summer between junior and senior year
6. SE Seminar in SEM 6, 7 or 8: 1 credit, taken as IE 49000, or at least four SE oriented seminars per semester given by CS, IE, or ECE.

Relevant Areas Software Engineering Electives (SEE) (taken as Technical Electives):

- Software Design: ECE 46200
- Software Systems: IE 54800, , IE 57400, IE 58800, IE 59000 (Advanced Robotics and Machine Vision), (or ECE 36200/47700), CS 35200/35400
- Software Quality Assurance: IE53200, IE 53000, IE53300, CS 49000, ECE 57200
- Information Security: CS 42600, ECE 49500
- Software Architecture: IE 55900
- Software Process Management: IE54500, IE54600, IE58000, IE57900, IE58100, IE63100, IE63200; Potential future course by IE/KRNT

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Sample BS Plan of Study (POS) for Industrial Engineering majors

Students specializing under this program will receive a Concentration in SE upon graduation.

This program will not change the total course requirements, the required IE courses, and the number of credits for Technical Electives and for General Education Electives.

Semester							
	1	MA 16100/16500	CHM 11500	ENGL 10600	ENGR 13100		
		5 or 4 cr.	4 cr.	4 cr.	2 cr.		
	2	MA 16200/16600	CS 15900/18000	PHYS 17200	COM 11400	ENGR 13200	
		5 or 4 cr.	3 cr.	4 cr.	3 cr.	2 cr.	
	3	MA 26100	ME 27000	IE 20000	IE 23000	IE 34300	GE
		4 cr.	3 cr.	0 cr.	3 cr.	3 cr.	3 cr.
	4	MA 26500	NUCL 27300	PHYS 24100	IE 33000		GE
		3 cr.	3 cr.	3 cr.	3 cr.		3 cr.
	Summer Internship 1						
	5	MA 26600	ECE 20100	IE 33200**	IE 33500	IE 37000	GE
		3 cr.	3 cr.	3 cr.	3 cr.	3 cr.	3 cr.
	6	IE 33600	ME 20000	IE 38300	IE 38600		GE
		3 cr.	3 cr.	3 cr.	3 cr.		3 cr.
	Summer Internship 2						
	7	IE 47400	IE 48600*	SEE (TE)***	TE*		GE
		3 cr.	3 cr.	3 cr.	3 cr.		3 cr.
	8	IE 43100	IE 47000/48400	IE 5XXXX***	TE		GE
		3 cr.	3 cr.	3 cr.	3 cr.		3 cr.

GE: General Educational Elective;
TE: Technical Elective
SEE: Software Engineering Elective. To be selected from Relevant Areas courses.
* Foundation Course. Note: If CS 307 is taken, it fulfills a Free TE course on the POS
** IE/SE Core Course
*** Usage of courses in these locations on the POS depends on the courses selected from the Relevant Areas courses.

Alternative Plans:

1. Study Abroad option: Use SUM 1 or SUM 2
2. SE Seminar could also be in SEM 6 or SEM 8.

Program approved originally by the School of IE in 12/2007. Updated 2/2012.
Committee members (2007): J.W. Barany, S.Y. Nof, and N. Prabhu. Aligned with SE Specialization in CS (Professors A.P. Mathur, B. Dunsmore), ECE (Professors T.N. Vijaykumar, S. Bagchi). Revised from original draft dated 12/6/07.