

Course Schedule - Spring 2006

Computer Science

101 *Intro to Computing, Eng & Sci* Credit: 3 hours.

Fundamental principles, concepts, and methods of computing, with emphasis on applications in the physical sciences and engineering. Basic problem solving and programming techniques; fundamental algorithms and data structures; use of computers in solving engineering and scientific problems. Credit is not given for both CS 101 and either CS 105 or CS 110 section C. Prerequisite: MATH 220.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

Students must register for one lab-discussion and one lecture section. Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
31018	lecture	AL1	01:00 PM - 01:50 PM	MW	room 66 Library - Main	Gambill, T
31018: Quant Reasoning II course.						
31020	lecture	AL2	02:00 PM - 02:50 PM	MW	room 66 Library - Main	Gambill, T
31020: Quant Reasoning II course.						
31115	laboratory-discussion	AYA	09:00 AM - 10:50 AM	M	room L520 Digital Computer Laboratory	Gambill, T
31115: Quant Reasoning II course.						
31116	laboratory-discussion	AYB	11:00 AM - 12:50 PM	M	room L520 Digital Computer Laboratory	Gambill, T
31116: Quant Reasoning II course.						
31117	laboratory-discussion	AYC	03:00 PM - 04:50 PM	M	room L520 Digital Computer Laboratory	Gambill, T
31117: Quant Reasoning II course.						
31118	laboratory-discussion	AYD	09:00 AM - 10:50 AM	T	room L520 Digital Computer Laboratory	Gambill, T
31118: Quant Reasoning II course.						
31119	laboratory-discussion	AYE	03:00 PM - 04:50 PM	T	room L520 Digital Computer Laboratory	Gambill, T
31119: Quant Reasoning II course.						
31120	laboratory-discussion	AYF	09:00 AM - 10:50 AM	W	room L520 Digital Computer Laboratory	Gambill, T

31120: Quant Reasoning II course.						
31121	laboratory-discussion	AYG	11:00 AM - 12:50 PM	W	room L520 Digital Computer Laboratory	Gambill, T
31121: Quant Reasoning II course.						
31122	laboratory-discussion	AYH	03:00 PM - 04:50 PM	W	room L520 Digital Computer Laboratory	Gambill, T
31122: Quant Reasoning II course.						
31123	laboratory-discussion	AYI	01:00 PM - 02:50 PM	R	room L520 Digital Computer Laboratory	Gambill, T
31123: Quant Reasoning II course.						
31124	laboratory-discussion	AYJ	03:00 PM - 04:50 PM	R	room L520 Digital Computer Laboratory	Gambill, T
31124: Quant Reasoning II course.						
31125	laboratory-discussion	AYK	09:00 AM - 10:50 AM	F	room L520 Digital Computer Laboratory	Gambill, T
31125: Quant Reasoning II course.						
31126	laboratory-discussion	AYL	11:00 AM - 12:50 PM	F	room L520 Digital Computer Laboratory	Gambill, T
31126: Quant Reasoning II course.						

105 Intro to Computing, Non-Tech Credit: 3 hours.

Introduction to computing as an essential tool of academic and professional activities in disciplines other than science and engineering. Functions and interrelationships of computer system components: hardware, systems and applications software, and networks. Widely used application packages such as spreadsheets and databases. Concepts and practice of programming for the solution of simple problems in different application areas. Students interested in scientific and engineering applications of computing should take CS 101 instead of this course. Prerequisite: MATH 012 or equivalent. Credit is not given for both CS 105 and CS 101.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

Students must register for one lab-discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
31127	lecture	AL1	09:00 AM - 09:50 AM	MW	room 66 Library - Main	Gambill, T; Woodbury, M
31127: Quant Reasoning I course.						
31128	lecture	AL2	10:00 AM - 10:50 AM	MW	room 66 Library - Main	Gambill, T; Woodbury, M
31128: Quant Reasoning I course.						

31129	lecture	AL3	11:00 AM - 11:50 AM	MW	room 66 Library - Main	Gambill, T; Woodbury, M
31129: Quant Reasoning I course.						
31130	lecture	AL4	12:00 PM - 12:50 PM	MW	room 66 Library - Main	Gambill, T; Woodbury, M
31130: Quant Reasoning I course.						
31134	laboratory-discussion	AYA	04:00 PM - 04:50 PM	W	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Yin, M
31134: Quant Reasoning I course.						
31131	laboratory-discussion	AYB	05:00 PM - 05:50 PM	W	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Yin, M
31131: Quant Reasoning I course.						
31132	laboratory-discussion	AYC	06:00 PM - 06:50 PM	W	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Chen, C
31132: Quant Reasoning I course.						
31133	laboratory-discussion	AYD	07:00 PM - 07:50 PM	W	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Chen, C
31133: Quant Reasoning I course.						
31135	laboratory-discussion	AYE	09:00 AM - 09:50 AM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Hilldore, B
31135: Quant Reasoning I course.						
31136	laboratory-discussion	AYF	10:00 AM - 10:50 AM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Hilldore, B
31136: Quant Reasoning I course.						
31137	laboratory-discussion	AYG	11:00 AM - 11:50 AM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Olson, L
31137: Quant Reasoning I course.						
31138	laboratory-discussion	AYH	12:00 PM - 12:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; McGovern, A
31138: Quant Reasoning I course.						
31139	laboratory-discussion	AYI	01:00 PM - 01:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; McGovern, A
31139: Quant Reasoning I course.						
31140	laboratory-	AYJ	02:00 PM - 02:50	R	room 70B	Gambill, T;

	discussion		PM		Wohlers Hall	Woodbury, M; Lauterburg, S
31140: Quant Reasoning I course.						
31141	laboratory- discussion	AYK	03:00 PM - 03:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Lauterburg, S
31141: Quant Reasoning I course.						
31142	laboratory- discussion	AYL	04:00 PM - 04:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Jain, A
31142: Quant Reasoning I course.						
31143	laboratory- discussion	AYM	05:00 PM - 05:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Belcher, M
31143: Quant Reasoning I course.						
31144	laboratory- discussion	AYN	06:00 PM - 06:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Belcher, M
31144: Quant Reasoning I course.						
31145	laboratory- discussion	AYO	07:00 PM - 07:50 PM	R	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Morlok, R
31145: Quant Reasoning I course.						
31146	laboratory- discussion	AYP	09:00 AM - 09:50 AM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Gilbert, E
31146: Quant Reasoning I course.						
31147	laboratory- discussion	AYQ	10:00 AM - 10:50 AM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Gilbert, E
31147: Quant Reasoning I course.						
31148	laboratory- discussion	AYR	11:00 AM - 11:50 AM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Snader, R
31148: Quant Reasoning I course.						
31149	laboratory- discussion	AYS	12:00 PM - 12:50 PM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Snader, R
31149: Quant Reasoning I course.						
31150	laboratory- discussion	AYT	01:00 PM - 01:50 PM	F	room 70B Wohlers Hall	Kochhar, S; Gambill, T; Woodbury, M
31150: Quant Reasoning I course.						

44201	laboratory-discussion	AYU	02:00 PM - 02:50 PM	F	room 70B Wohlers Hall	Kochhar, S; Gambill, T; Woodbury, M
44201: Quant Reasoning I course.						
44202	laboratory-discussion	AYV	03:00 PM - 03:50 PM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Acharya, E
44202: Quant Reasoning I course.						
44203	laboratory-discussion	AYW	04:00 PM - 04:50 PM	F	room 70B Wohlers Hall	Gambill, T; Woodbury, M; Acharya, E
44203: Quant Reasoning I course.						

125 Intro to Computer Science Credit: 4 hours.

First course for computer science majors and other students with a deep interest in computing. The course introduces students to basic concepts in computing and fundamental techniques for solving computational problems. Prerequisite: Three years of high school mathematics or MATH 012.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

Students must register for one lab-discussion and one lecture section. Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
31152	lecture	AL1	01:00 PM - 01:50 PM	MWF	room 1404 Siebel Center for Comp Sci	Zych, J
31152: Quant Reasoning I course.						
31155	lecture	AL2	02:00 PM - 02:50 PM	MWF	room 1404 Siebel Center for Comp Sci	Zych, J
31155: Quant Reasoning I course.						
31157	laboratory-discussion	AYA	09:00 AM - 10:50 AM	T	room 1245 Digital Computer Laboratory	Zych, J
31157: Quant Reasoning I course.						
31159	laboratory-discussion	AYB	11:00 AM - 12:50 PM	T	room 1245 Digital Computer Laboratory	Zych, J
31159: Quant Reasoning I course.						
31160	laboratory-discussion	AYC	01:00 PM - 02:50 PM	T	room 1245 Digital Computer Laboratory	Zych, J
31160: Quant Reasoning I course.						
31163	laboratory-discussion	AYD	03:00 PM - 04:50 PM	T	room 1245 Digital Computer	Zych, J

					Laboratory	
31163: Quant Reasoning I course.						
31176	laboratory-discussion	AYE	09:00 AM - 10:50 AM	W	room 1245 Digital Computer Laboratory	Zych, J
31176: Quant Reasoning I course.						
31177	laboratory-discussion	AYF	11:00 AM - 12:50 PM	W	room 1245 Digital Computer Laboratory	Zych, J
31177: Quant Reasoning I course.						
31166	laboratory-discussion	AYG	03:00 PM - 04:50 PM	W	room 1245 Digital Computer Laboratory	Zych, J
31166: Quant Reasoning I course.						
31168	laboratory-discussion	AYH	09:00 AM - 10:50 AM	R	room 1245 Digital Computer Laboratory	Zych, J
31168: Quant Reasoning I course.						
31180	laboratory-discussion	AYL	03:00 PM - 04:50 PM	F	room 1245 Digital Computer Laboratory	Zych, J
31180: Quant Reasoning I course.						

173 Discrete Structures Credit: 3 hours.

Studies discrete mathematical structures frequently encountered in the study of Computer Science. Topics will include sets, propositions, boolean algebra, induction, recursion, relations, functions, and graphs. Credit is not given for both CS 173 and MATH 213.

CRN	Type	Section	Time	Days	Location	Instructor
39311	lecture-discussion	M	09:30 AM - 10:45 AM	TR	room 1404 Siebel Center for Comp Sci	Heeren, C
31187	lecture-discussion	Q	11:00 AM - 12:15 PM	TR	room 1214 Siebel Center for Comp Sci	Heeren, C

196 Freshman Honors Course in CS Credit: 1 hours.

Course is offered for honors credit in conjunction with other 100-level computer science courses, in which concurrent registration is required. Enrollment is strictly limited to beginning students with superior talents in computer science. A special examination may be required for admission to this course. May be repeated. Prerequisite: Concurrent registration in another 100-level computer science course (see Schedule); or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31189	lecture-discussion	1	ARRANGED			Gambill, T
31193	lecture-discussion	25	ARRANGED			Zych, J
31191	lecture-discussion	5	ARRANGED			Woodbury, M
31195	lecture-discussion	73	ARRANGED			Heeren, C

199 **Undergraduate Open Seminar** Credit: 1 to 5 hours.
May be repeated.

CRN	Type	Section	Time	Days	Location	Instructor
31200	lecture	CH	01:00 PM - 01:50 PM	F	room 1320 Digital Computer Laboratory	Heeren, C
31200: 1 hours This special course is designed to provide content knowledge previously taught in CS273 and currently taught in CS173. If you are a student who took CS173 BEFORE summer 2005, and you are expecting to take CS273 in spring 2006 or later, then this supplemental course is for you. The course covers Counting, Probability, and Recurrences, and though the supplemental course is not required, CS473, the algorithms course, will assume that you have mastered the topics. This course may be taken concurrently with CS273.						
45351	lecture	MW	07:00 PM - 07:50 PM	W	room 1103 Siebel Center for Comp Sci	Woodbury, M
45351: 1 hours TOPIC: INTELLECTUAL PROPERTY LAW						

210 **Ethical & Prof'l Issues in CS** Credit: 2 hours.

Ethics for the computing profession. Ethical decision-making; licensing; intellectual property, freedom of information, and privacy. Students will be required to make oral presentations. Credit is not given for both CS 210 and ECE 316. Prerequisite: CS 225 and junior standing.

CRN	Type	Section	Time	Days	Location	Instructor
31205	lecture-discussion	1	12:00 PM - 01:50 PM	M	room 1103 Siebel Center for Comp Sci	Woodbury, M
31205: 2 hours						
31206	lecture-discussion	2	03:00 PM - 04:50 PM	M	room 1103 Siebel Center for Comp Sci	Woodbury, M
31206: 2 hours						

39312	lecture-discussion	3	12:00 PM - 01:50 PM	W	room 1103 Siebel Center for Comp Sci	Woodbury, M
39312: 2 hours						
39313	lecture-discussion	4	03:00 PM - 04:50 PM	W	room 1103 Siebel Center for Comp Sci	Woodbury, M
39313: 2 hours						

225 Data Structure & Softw Prin Credit: 4 hours.

Data abstractions: elementary data structures: lists, stacks, queues, trees; searching and sorting techniques. Introduction to the principles of software engineering including term programming project. Prerequisite: CS 125 or ECE 190; CS 173 or MATH 213; or consent of instructor.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

Students must register for one lecture-discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
31208	lecture	AL1	12:00 PM - 12:50 PM	MWF	room 1404 Siebel Center for Comp Sci	Zych, J
31208: Quant Reasoning II course.						
31213	lecture	AL2	03:00 PM - 03:50 PM	MWF	room 1404 Siebel Center for Comp Sci	Zych, J
31213: Quant Reasoning II course.						
31218	laboratory-discussion	AYB	03:00 PM - 04:50 PM	M	room 1235 Digital Computer Laboratory	Zych, J
31218: Quant Reasoning II course.						
31222	laboratory-discussion	AYC	09:00 AM - 10:50 AM	T	room 1235 Digital Computer Laboratory	Zych, J
31222: Quant Reasoning II course.						
31225	laboratory-discussion	AYD	11:00 AM - 12:50 PM	T	room 1235 Digital Computer Laboratory	Zych, J
31225: Quant Reasoning II course.						
31227	laboratory-discussion	AYE	01:00 PM - 02:50 PM	T	room 1235 Digital Computer Laboratory	Zych, J
31227: Quant Reasoning II course.						
31229	laboratory-discussion	AYF	03:00 PM - 04:50 PM	T	room 1235 Digital Computer	Zych, J

					Laboratory	
31229: Quant Reasoning II course.						
31231	laboratory-discussion	AYG	09:00 AM - 10:50 AM	W	room 1235 Digital Computer Laboratory	Zych, J
31231: Quant Reasoning II course.						
31234	laboratory-discussion	AYH	11:00 AM - 12:50 PM	W	room 1235 Digital Computer Laboratory	Zych, J
31234: Quant Reasoning II course.						
31236	laboratory-discussion	AYI	01:00 PM - 02:50 PM	W	room 1235 Digital Computer Laboratory	Zych, J
31236: Quant Reasoning II course.						
31239	laboratory-discussion	AYJ	03:00 PM - 04:50 PM	W	room 1235 Digital Computer Laboratory	Zych, J
31239: Quant Reasoning II course.						

231 **Computer Architecture I** Credit: 3 hours.

Introduction to computer architecture, working up from the logic gate level: combinational and sequential networks; computer arithmetic; arithmetic/logic units; memory organization; control unit design. Credit is not given for both CS 231 and ECE 290. Prerequisite: CS 125.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
31241	lecture	D	10:00 AM - 10:50 AM	MW	room 1404 Siebel Center for Comp Sci	Harrison, W
31241: Quant Reasoning II course.						
31241: A review session will be held each week at 10:00 on Friday, 1404 Siebel Center. Students should adjust their schedule accordingly.						

232 **Computer Architecture II** Credit: 3 hours.

Second-level course in computer architecture: machine-level programming, instruction sets, data representations; subroutines; input/output hardware and software; linking and loading; relation to high-level languages. Credit is not given for both CS 232 and ECE 390. (Counts for advanced hours in LAS.) Prerequisite: CS 231.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
31245	discussion-	ADA	10:00 AM - 10:50	M	room 1111 Siebel	Zilles, C

	recitation		AM		Center for Comp Sci	
31248	discussion-recitation	ADB	11:00 AM - 11:50 AM	M	room 1111 Siebel Center for Comp Sci	Zilles, C
31250	discussion-recitation	ADC	01:00 PM - 01:50 PM	M	room 1111 Siebel Center for Comp Sci	Zilles, C
31251	discussion-recitation	ADD	02:00 PM - 02:50 PM	M	room 1111 Siebel Center for Comp Sci	Zilles, C
31253	discussion-recitation	ADE	11:00 AM - 11:50 AM	T	room 1111 Siebel Center for Comp Sci	Zilles, C
39375	discussion-recitation	ADF	03:00 PM - 03:50 PM	T	room 1111 Siebel Center for Comp Sci	Zilles, C
31244	lecture	AL1	10:00 AM - 10:50 AM	WF	room 1320 Digital Computer Laboratory	Zilles, C

241 System Programming Credit: 3 hours.

Introduction to systems programming: This course will cover the basics of system programming, including POSIX processes, process control, inter-process communication, synchronization, signals, simple memory management, file I/O and directories, shell programming, socket network programming, RPC programming in distributed systems, basic security mechanisms, and standard tools for systems programming such as debugging tools. Prerequisite: CS 225; CS 231; credit or concurrent registration in CS 232.

CRN	Type	Section	Time	Days	Location	Instructor
43556	lecture-discussion	SP	11:00 AM - 11:50 AM	MWF	room 1404 Siebel Center for Comp Sci	Nahrstedt, K

43556: Optional discussion groups will meet in room 1214 Siebel Center at the following times each week: 4-5 pm Monday, 7-8 pm Tuesday, 7-8 pm Wednesday and 4-5 pm Thursday. Students should consider this option when determining a class schedule for the semester.

242 Programming Studio Credit: 3 hours.

Intensive programming lab intended to strengthen skills in programming. Prerequisite: CS 241.

CRN	Type	Section	Time	Days	Location	Instructor
43558	laboratory	AB1	ARRANGED		Siebel Center for Comp Sci	Woodley, M
43557	lecture	AL1	11:00 AM - 11:50 AM	M	room 1214 Siebel Center for Comp	Woodley, M

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257 Numerical Methods Credit: 3 hours.

Introduction to numerical methods for students in science and engineering; topics include floating-point computation, systems of linear equations, approximation of functions and integrals, the single nonlinear equation, and the numerical solution of ordinary differential equations; discusses various applications in science and engineering; includes some programming as well as the use of high quality mathematical library routines. Same as MATH 257. Students with earned credit in CS 450 may not receive additional credit for CS 257 or MATH 257. (Counts for advanced hours in LAS.) Prerequisite: A 100-level computer science course; MATH 225 or MATH 415; MATH 242 or MATH 243.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
31255	lecture-discussion	M	09:30 AM - 10:45 AM	TR	room 1320 Digital Computer Laboratory	Olson, L
31255: Quant Reasoning II course.						

273 Intro to Theory of Computation Credit: 3 hours.

Finite automata and regular languages; pushdown automata and context-free languages; Turing machines and recursively enumerable sets; computability and the halting problem; undecidable problems; computational complexity and NP-completeness. Prerequisite: CS 125 and either CS 173 or MATH 213.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
31259	lecture-discussion	P	11:00 AM - 12:15 PM	TR	room 1320 Digital Computer Laboratory	Pitt, L; Fleck, M
31259: Quant Reasoning II course.						

296 Honors Course in CS Credit: 1 hours.

Group projects for honors work in computer science. Sections of this course are offered in conjunction with other 200-level computer science courses, in which concurrent registration is required. A special examination may be required for admission to this course. May be repeated. Prerequisite: Concurrent registration in another 200-level computer science course (see Schedule); or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31262	lecture-discussion	25	ARRANGED			Zych, J
31264	lecture-discussion	31	ARRANGED			Harrison, W
31265	lecture-discussion	32	ARRANGED			Zilles, C

31267	lecture-discussion	57	ARRANGED			Olson, L
31268	lecture-discussion	73	ARRANGED			Pitt, L; Fleck, M

397 Individual Study Credit: 1 to 3 hours.

May be repeated. Prerequisite: 100-level computer science course; consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10464	independent study		ARRANGED			
10464: Instructor Approval Required						
10464: Students must see the CS Department to receive the appropriate CRN for the instructor.						

411 Database Systems Credit: 3 or 4 hours.

Examines the logical organization of databases: the entity-relationship model; the hierarchical, network, and relational data models and their languages. Functional dependencies and normal forms. Design, implementation, and optimization of query languages; security and integrity; concurrency control, and distributed database systems. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 or CS 400 or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31352	lecture-discussion	N3	02:00 PM - 03:15 PM	TR	room 1320 Digital Computer Laboratory	Doan, A
31352: 3 hours						
31355	lecture-discussion	N4	02:00 PM - 03:15 PM	TR	room 1320 Digital Computer Laboratory	Doan, A
31355: 4 hours						

413 Intro to Combinatorics Credit: 3 or 4 hours.

Same as MATH 413. See MATH 413.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
37945	lecture-discussion	B13	09:00 AM - 09:50 AM	MWF	room 441 Altgeld Hall	
37945: Quant Reasoning II course.						
37945: 3 hours						

37948	lecture-discussion	B14	09:00 AM - 09:50 AM	MWF	room 441 Altgeld Hall	
37948: Quant Reasoning II course.						
37948: 4 hours Instructor Approval Required						

414 Multimedia Systems Credit: 3 or 4 hours.

Organization and structure of modern multimedia systems; audio and video encoding; quality of service concepts; scheduling algorithms for multimedia within OS and networks multimedia protocols over high-speed networks; synchronization schemes, user-interface design; multimedia teleservices. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 241 or CS 423.

CRN	Type	Section	Time	Days	Location	Instructor
31357	lecture-discussion	C3	10:00 AM - 10:50 AM	MWF	room 1103 Siebel Center for Comp Sci	Bailey, B
31357: 3 hours						
39314	lecture-discussion	C4	10:00 AM - 10:50 AM	MWF	room 1103 Siebel Center for Comp Sci	Bailey, B
39314: 4 hours						

417 Computer-Assisted Instruction Credit: 4 hours.

Same as CI 435. See CI 435.

CRN	Type	Section	Time	Days	Location	Instructor
45098	online	GVR	ARRANGED			Tettegah, S
45098: Online						

418 Computer Graphics Credit: 3 or 4 hours.

Introduction to basic mathematical tools and computational techniques for modeling, rendering, and animating 3-D scenes. Same as CSE 427. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 or CS 400; MATH 225 or MATH 415; MATH 242 or MATH 243.

CRN	Type	Section	Time	Days	Location	Instructor
31359	lecture-discussion	T3	03:30 PM - 04:45 PM	TR	room 1404 Siebel Center for Comp Sci	Yu, Y
31359: 3 hours						
31361	lecture-	T4	03:30 PM - 04:45	TR	room 1404 Siebel	Yu, Y

	discussion		PM		Center for Comp Sci	
31361: 4 hours						

419 *Advanced Comp Graphics* Credit: 3 or 4 hours.

Advanced methods for representing, displaying, and rendering two-, three-, and four-dimensional scenes. General algebraic curves and surfaces, splines, Gaussian and bump-function representation, fractals, particle systems, constructive solid geometry methods, lighting models, radiosity, advanced ray-tracing methods, surface texturing animation techniques, data visualization methods. Same as CSE 428. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 418.

CRN	Type	Section	Time	Days	Location	Instructor
31366	lecture-discussion	C3	10:00 AM - 10:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Hart, J
31366: 3 hours						
39734	lecture-discussion	C4	10:00 AM - 10:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Hart, J
39734: 4 hours						

420 *Intro to Parallel Programming* Credit: 3 or 4 hours.

Introduction to fundamental issues in design and development of parallel programs for various types of parallel computers. Various programming models according to both machine type and application area. Cost models, debugging, and performance evaluation of parallel programs with actual application examples. Same as CSE 402, and ECE 492. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 400 or CS 225; or advanced programming experience.

CRN	Type	Section	Time	Days	Location	Instructor
31370	lecture-discussion	D3	11:00 AM - 11:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Padua, D
31370: 3 hours						
39736	lecture-discussion	D4	11:00 AM - 11:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Padua, D
39736: 4 hours						

421 *Programming Lang and Compilers* Credit: 3 or 4 hours.

Introduction to the structure of programming languages and their implementation. Basic language design principles; abstract data types; functional languages; type systems; object-oriented languages. Basics of lexing, parsing, syntax-directed translation, semantic analysis, and code generation. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225; CS 232 or ECE 390

CRN	Type	Section	Time	Days	Location	Instructor
31375	lecture-discussion	B3	09:00 AM - 09:50 AM	MWF	room 1404 Siebel Center for Comp Sci	Agha, G
31375: 3 hours						
31376	lecture-discussion	B4	09:00 AM - 09:50 AM	MWF	room 1404 Siebel Center for Comp Sci	Agha, G
31376: 4 hours						

423 **Operating Systems Design** Credit: 3 or 4 hours.

The organization and structure of modern operating systems and concurrent programming concepts. Deadlock, virtual memory, processor scheduling, and disk systems. Performance, security, and protection. Same as CSE 423. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 241.

CRN	Type	Section	Time	Days	Location	Instructor
31378	lecture-discussion	C3	11:00 AM - 11:50 AM	MWF	room 1109 Siebel Center for Comp Sci	Zhou, Y
31378: 3 hours						
31379	lecture-discussion	C4	11:00 AM - 11:50 AM	MWF	room 1109 Siebel Center for Comp Sci	Zhou, Y
31379: 4 hours						

424 **Real-Time Systems** Credit: 3 or 4 hours.

Examples of real-time computing systems; real-time scheduling and resource management algorithms; analytical and efficient validation methods; examples of real-time operating systems; temporal consistency of real-time data; formal methods for specification of and reasoning about timing constraints. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 431.

CRN	Type	Section	Time	Days	Location	Instructor
31382	lecture-discussion	P3	02:00 PM - 03:15 PM	TR	room 1103 Siebel Center for Comp Sci	Abdelzaher, T
31382: 3 hours						
39741	lecture-discussion	P4	02:00 PM - 03:15 PM	TR	room 1103 Siebel Center for Comp Sci	Abdelzaher, T
39741: 4 hours						

425 Distributed Systems Credit: 3 hours.

Covers topics needed for a basic understanding of distributed computer systems: Protocols, specification techniques, global states and their determination, reliable broadcast, transactions and commitment, security, and real-time systems. Same as CSE 424 and ECE 428. Prerequisite: CS 241.

CRN	Type	Section	Time	Days	Location	Instructor
31384	lecture-discussion	T	03:30 PM - 04:45 PM	TR	room 1304 Siebel Center for Comp Sci	Hu, Y
31384: 3 hours						

428 Software Engineering, II Credit: 3 or 4 hours.

Software development, management, and maintenance. Topics include project and configuration management, collaborative development models, software quality assurance, interoperability domain engineering and software reuse, and software re-engineering. Same as CSE 429. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 427.

This course satisfies the General Education Criteria for a Advanced Composition course.

CRN	Type	Section	Time	Days	Location	Instructor
31389	lecture-discussion	Q3	12:30 PM - 01:45 PM	TR	room 1310 Digital Computer Laboratory	Johnson, R
31389: Advanced Composition course.						
31389: 3 hours						
39377	lecture-discussion	Q4	12:30 PM - 01:45 PM	TR	room 1310 Digital Computer Laboratory	Johnson, R
39377: Advanced Composition course.						
39377: 4 hours						

429 Software Engineering II, ACP Credit: 3 hours.

Course is identical to CS 428 except for the additional writing component. See CS 428. Prerequisite: CS 427 Software Engineering, I.

This course satisfies the General Education Criteria for a Advanced Composition course.

CRN	Type	Section	Time	Days	Location	Instructor
41483	lecture-discussion	Q3	12:30 PM - 01:45 PM	TR	room 1310 Digital Computer Laboratory	Johnson, R
41483: Advanced Composition course.						
41483: 3 hours						

431 Embedded Sys Arch and Software Credit: 0 to 4 hours.

Survey of sampled data systems and embedded architecture; overview of the key concepts in common embedded system applications; signal processing and control; embedded microprocessor and device interface; time-critical I/O handling; data communications; real-time operating systems and techniques for the development and analysis of embedded real-time software; hands-on laboratory projects. 3 undergraduate hours only. 3 or 4 graduate hours only. Prerequisite: CS 241 or CS 423.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
31398	laboratory	AB1	03:00 PM - 04:50 PM	W	room ARR Siebel Center for Comp Sci	Caccamo, M
31399	laboratory	AB2	05:00 PM - 06:50 PM	R	room ARR Siebel Center for Comp Sci	Caccamo, M
31401	laboratory	AB3	05:00 PM - 06:50 PM	W	room ARR Siebel Center for Comp Sci	Caccamo, M
31403	laboratory	AB4	02:00 PM - 03:50 PM	F	room ARR Siebel Center for Comp Sci	Caccamo, M
31393	lecture	AL3	11:00 AM - 12:15 PM	TR	room 1310 Digital Computer Laboratory	Caccamo, M
31393: 3 hours						
31396	lecture	AL4	11:00 AM - 12:15 PM	TR	room 1310 Digital Computer Laboratory	Caccamo, M
31396: 4 hours						

433 Computer System Organization Credit: 3 or 4 hours.

Computer system analysis and design. Organizational dependence on computations to be performed. Speed and cost of parts and overall machines. Instruction set design. Pipeline and vector machines. Memory hierarchy design. Same as CSE 422. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 232 or ECE 390.

CRN	Type	Section	Time	Days	Location	Instructor
31405	lecture-discussion	S3	12:30 PM - 01:45 PM	TR	room 1404 Siebel Center for Comp Sci	Adve, S
31405: 3 hours						
31407	lecture-discussion	S4	12:30 PM - 01:45 PM	TR	room 1404 Siebel Center for Comp Sci	Adve, S

31407: 4 hours

435 Intro VLSI System Design Credit: 3 hours.
Same as CSE 433 and ECE 425. See ECE 425.

CRN	Type	Section	Time	Days	Location	Instructor
33859	laboratory	AB1	ARRANGED			
33861	lecture	AL1	11:00 AM - 12:20 PM	MW	room 269 Everitt Elec and Comp Engr Lab	Chen, D

438 Communication Networks Credit: 3 hours.

Layered architectures and the OSI Reference Model; design issues and protocols in the transport, network, and data link layers; architectures and control algorithms of local-area, point-to-point, and satellite networks; standards in networks access protocols; models of network interconnection; overview of networking and communication software. Same as CSE 425 and ECE 438. Prerequisite: CS 241; one of MATH 461, MATH 463, ECE 413.

CRN	Type	Section	Time	Days	Location	Instructor
31410	lecture-discussion	R	11:00 AM - 12:15 PM	WF	room 1310 Digital Computer Laboratory	Luo, H

31410: 3 hours

440 Intro Artificial Intelligence Credit: 3 or 4 hours.

Introductory description of the major subjects and directions of research in artificial intelligence; topics include AI languages (LISP and PROLOG), basic problem solving techniques, knowledge representation and computer inference, machine learning, natural language understanding, computer vision, robotics, and societal impacts. Same as ECE 448. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 or ECE 390; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31423	lecture-discussion	Q3	02:00 PM - 03:15 PM	TR	room 1404 Siebel Center for Comp Sci	Ponce, J

31423: 3 hours

31424	lecture-discussion	Q4	02:00 PM - 03:15 PM	TR	room 1404 Siebel Center for Comp Sci	Ponce, J
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31424: 4 hours

446 Machine Learning & Pattern Rec Credit: 3 or 4 hours.

Organized review of basic theoretical concepts and methods of machine learning and recognition; decision space and linguistic and relational representation of objects; statistical and deterministic recognition algorithms; various types of learning, including adaptive, procedural, and inductive; selected applications; and medical consulting, determination of cost-optimal classification rules, inferential information systems, and computer vision. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 273 and CS 440.

CRN	Type	Section	Time	Days	Location	Instructor
31421	lecture-discussion	P3	12:30 PM - 01:45 PM	WF	room 1109 Siebel Center for Comp Sci	Roth, D
31421: 3 hours						
39433	lecture-discussion	P4	12:30 PM - 01:45 PM	WF	room 1109 Siebel Center for Comp Sci	Roth, D
39433: 4 hours						

450 Intro to Numerical Analysis Credit: 3 or 4 hours.

Introduction to numerical analysis, including linear system solvers, optimization techniques, interpolation and approximation of functions, solving systems of nonlinear equations, eigenvalue problems, least squares, and quadrature; numerical handling of ordinary and partial differential equations. Same as CSE 401, ECE 491, and MATH 450. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 101 or CS 125; CS 257 or MATH 415; one of MATH 385, MATH 386, MATH 441; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31427	lecture-discussion	B3	09:00 AM - 09:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Hewett, R; Hirani, A
31427: 3 hours						
31430	lecture-discussion	B4	09:00 AM - 09:50 AM	MWF	room 1302 Siebel Center for Comp Sci	Hewett, R; Hirani, A
31430: 4 hours						

455 Numerical Methods for PDEs Credit: 3 or 4 hours.

Introduction to numerical techniques for initial and boundary value problems in partial differential equations; includes finite difference and finite element discretization techniques, direct and iterative solution methods for discrete problems, and programming techniques and usage of FORTRAN packages. Same as CSE 411, and MATH 455. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 257; one of MATH 380, MATH 385, MATH 386, MATH 441.

CRN	Type	Section	Time	Days	Location	Instructor
39584	lecture-	N3	12:30 PM - 01:45	TR	room 1111 Siebel	Bond, S

	discussion		PM		Center for Comp Sci	
39584: 3 hours						
39585	lecture-discussion	N4	12:30 PM - 01:45 PM	TR	room 1111 Siebel Center for Comp Sci	Bond, S
39585: 4 hours						

462 *Logic Design* Credit: 3 hours.
Same as ECE 462 and MATH 491. See ECE 462.

CRN	Type	Section	Time	Days	Location	Instructor
33958	discussion-recitation	C	10:00 AM - 10:50 AM	MWF	room 151 Everitt Elec and Comp Engr Lab	Nicol, D

465 *Princ of User Interface Design* Credit: 3 or 4 hours.

This is a project-focused course that covers fundamental principles of user interface design, implementation, and evaluation. Students work in small teams on a semester-long project that includes: analysis of the problem domain, user skills, and tasks; iterative prototyping of interfaces to address user needs; conducting several forms of evaluation such as cognitive walkthroughs and usability tests; and implementation of the final prototype. Students from non-technical disciplines may enroll in the course as non-programmers who participate in all aspects of the projects with the possible exception of implementation. Same as LIS 465. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 or CS 400; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
43587	lecture-discussion	M3	12:30 PM - 01:45 PM	WF	room 1111 Siebel Center for Comp Sci	Karahalios, K
43587: 3 hours						
43588	lecture-discussion	M4	12:30 PM - 01:45 PM	WF	room 1111 Siebel Center for Comp Sci	Karahalios, K
43588: 4 hours						

473 *Algorithms* Credit: 3 or 4 hours.

Advanced data structures, graph algorithms, arithmetic algorithms, geometric algorithms, string problems, parallel algorithms, NP-completeness. Same as CSE 414 and MATH 473. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 and CS 273; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
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31552	lecture-discussion	GR3	11:00 AM - 12:15 PM	TR	room 1109 Siebel Center for Comp Sci	Har-Peled, S
31552: 3 hours This section is for GRADUATE students ONLY.						
31558	lecture-discussion	GR4	11:00 AM - 12:15 PM	TR	room 1109 Siebel Center for Comp Sci	Har-Peled, S
31558: 4 hours This section is for GRADUATE students ONLY.						
31457	lecture-discussion	UG3	11:00 AM - 12:15 PM	TR	room 1404 Siebel Center for Comp Sci	Viswanathan, M
31457: 3 hours This section is for UNDERGRADUATE students ONLY.						

477 Formal Software Dev Methods Credit: 3 or 4 hours.

Mathematical models, languages, and methods for software specification, development, and verification. Same as ECE 478. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: CS 225 or CS 400; CS 273 or MATH 414.

CRN	Type	Section	Time	Days	Location	Instructor
39588	lecture-discussion	B3	09:30 AM - 10:45 AM	TR	room 1103 Siebel Center for Comp Sci	Meseguer, J
39588: 3 hours						
39589	lecture-discussion	B4	09:30 AM - 10:45 AM	TR	room 1103 Siebel Center for Comp Sci	Meseguer, J
39589: 4 hours						

493 Senior Project in CS II, ACP Credit: 3 hours.

Course is identical to CS 494 except for the additional writing component. See CS 494. 3 undergraduate hours. Students must enroll for a two term sequence, CS 492 and CS 493. Credit is not given for both CS 493 and a project course in another engineering department for the same project. Prerequisite: CS 492.

This course satisfies the General Education Criteria for a Advanced Composition course.

CRN	Type	Section	Time	Days	Location	Instructor
31260	lecture-discussion	CS	04:00 PM - 04:50 PM	T	room 1302 Siebel Center for Comp Sci	Johnson, R
31260: Advanced Composition course.						
31260: 3 hours						

494 Senior Project in CS II Credit: 3 hours.

Continuation of a project course in computer science. Students work in teams to solve typical commercial or industrial problems. Work involves planning, design, and implementation. Extensive oral and written work is required both on-campus and possibly off-campus at sponsors' locations. 3 undergraduate hours. Students must enroll for a two term sequence, CS 492 and either CS 493 or CS 494. Credit is not given for both CS 494 and a project course in another engineering department for the same project. Prerequisite: CS 492.

CRN	Type	Section	Time	Days	Location	Instructor
40242	lecture-discussion	CS	04:00 PM - 04:50 PM	T	room 1302 Siebel Center for Comp Sci	Johnson, R
40242: 3 hours						

498 Special Topics in CS Credit: 0 to 4 hours.

Lectures in topics of current interest. See Schedule for current topics. May be repeated. Prerequisite: As specified for each topic offering, see Schedule or departmental course description.

CRN	Type	Section	Time	Days	Location	Instructor
31598	lecture-discussion	CXZ	03:30 PM - 04:45 PM	TR	room 1109 Siebel Center for Comp Sci	Zhai, C
31598: Topic: Intro to Text Information Systems. This course will provide an introduction to the theory, design, and implementation of text information systems. Topics to be covered include general algorithms for retrieval, filtering, clustering and categorization of textual information with applications in web search engines, email management, and scientific literature mining.						
31599	lecture-discussion	DCS	12:30 PM - 01:45 PM	TR	room 1302 Siebel Center for Comp Sci	Goggin, N
31599: 3 hours Topic: Design for Computer Scientists. Credit: 3 Undergraduate hours. This course is intended for 2nd and 3rd year CS undergraduate students who want to learn the elements of design to improve information displays, presentations, web pages, and human/computer interfaces.						
43755	lecture	DM	11:00 AM - 12:15 PM	TR	room 1103 Siebel Center for Comp Sci	Marinov, D
43755: Topic: Software Testing. Prerequisite: Consent of Instructor. Credit: 3 Undergraduate Hours; 3 or 4 Graduate Hours. This course will provide an introduction to systematic and organized approaches to software testing. Topics to be covered include testing process, coverage criteria, automatic and manual generation of test inputs, execution of tests, and validation of test outputs.						
31590	lecture-discussion	JG	09:00 AM - 10:20 AM	TR	room 289 Undergraduate Library	Gunderson, J
31590: Topic: Designing Universally Accessible Web Resources. Credit: 3 Undergraduate Hours; 4 Graduate Hours. Meets with LIS490AR For additional information, please see: http://cita.disability.uiuc.edu/courses/2006-01-LIS490/						
43753	lecture	LVK	11:00 AM - 12:15	TR	room 1302 Siebel	Kale, L

			PM		Center for Comp Sci	
43753: Topic: Parallel Prog. & Algorithms.						
43751	lecture	MP	02:00 PM - 03:15 PM	WF	room 1131 Siebel Center for Comp Sci	Parthasarathy, M
43751: Topic: Software Model-Checking. Credit: 3 Undergraduate Hours; 3 or 4 Graduate Hours. This course will cover various automatic techniques to analyze and verify software (manual techniques will not be covered). Three verification paradigms will be studied, including dataflow analysis, explicit software verification, and techniques where the system is abstracted into a tractable model which is then algorithmically/symbolically verified.						
39662	lecture	SH	09:30 AM - 10:45 AM	TR	room 1111 Siebel Center for Comp Sci	Hinrichs, S
39662: Topic: Cybersecurity Laboratory. Prerequisite: CS498RHC (Information Assurance) or Consent of Instructor. Credit: 3 Undergraduate hours; 3 or 4 Graduate hours. This applied security course complements CS498RHC, Introduction to Information Assurance. It reinforces the security taught in that course with hands on projects. The projects in the lab class are divided into the following areas: endpoint security, network security, intrusions and defenses, and security architectures. Projects include configuration scenarios for security mechanisms such as Windows, SE Linux, and firewalls; programming tasks such as least privilege programming in Windows and worm creation; and system designs, attacks, and defenses.						

499 Senior Thesis in CS Credit: 3 hours.

Research and thesis development experience in computer science. A student works with a faculty member on a mutually agreed upon thesis topic and completes a written thesis. Work involves literature search, oral presentation, analysis and/or implementation, paper preparation, and a written thesis. 3 undergraduate hours. May be repeated to a maximum of 6 hours. Prerequisite: Senior standing in CS and consent of instructor.

This course satisfies the General Education Criteria for a Advanced Composition course.

CRN	Type	Section	Time	Days	Location	Instructor
10465	independent study		ARRANGED			
10465: Advanced Composition course. Instructor Approval Required						
10465: Students must see the CS Department to receive the appropriate CRN for the instructor.						

512 Data Mining Principles Credit: 4 hours.

Advanced course on principles and algorithms of data mining. Topics include data cleaning and integration; descriptive and predictive mining; mining frequent, sequential, and structured patterns; clustering, outlier analysis and fraud detection; stream data, web, text, and biomedical data mining; security and privacy in data mining; and research frontiers. Prerequisite: CS 412 or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31604	lecture-discussion	F	09:30 AM - 10:45 AM	TR	room 1302 Siebel Center for Comp Sci	Han, J

31604: 4 hours

522 Programming Language Semantics Credit: 4 hours.

Topics in the theory of programming languages including: functional programming, meta-circular interpreters, typed, untyped and polymorphic lambda-calculi, and denotational semantics. Prerequisite: CS 422 and CS 426.

CRN	Type	Section	Time	Days	Location	Instructor
39590	lecture-discussion	R	12:30 PM - 01:45 PM	WF	room 1131 Siebel Center for Comp Sci	Rosu, G
39590: 4 hours						

523 Advanced Operating Systems Credit: 4 hours.

Advanced concepts in operating system design and coverage of recent research directions. Resource management for parallel and distributed systems. Interaction between operating system design and computer architectures. Topics include: process management, virtual memory, interprocess communication, context switching, parallel and distributed file system designs, persistent objects, process and data migration, load balancing, security, protection. Term projects. Same as CSE 523. Prerequisite: CS 423, CS 425, and CS 433; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31605	lecture-discussion	E	12:30 PM - 01:45 PM	WF	room 1304 Siebel Center for Comp Sci	Campbell, R; Biehl, J

526 Adv Topics in Compiler Constr Credit: 4 hours.

Advanced topics in compiler construction, including incremental and interactive compiling, error correction, code optimization, models of code generators, etc. Same as CSE 526. Prerequisite: CS 426.

CRN	Type	Section	Time	Days	Location	Instructor
43634	lecture-discussion	D	11:00 AM - 12:15 PM	WF	room 1111 Siebel Center for Comp Sci	Adve, V

533 Parallel Computer Architecture Credit: 4 hours.

Theoretical aspects of parallel and pipeline computation; time and processor bounds on classes of computations; data alignment network speed and cost bounds; conflict-free access memories; and overall computer system ideas. Same as CSE 522 and ECE 533. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31610	lecture-discussion	S	09:30 AM - 10:45 AM	TR	room 1109 Siebel Center for Comp	Torrellas, J

					Sci	
31610: 4 hours						

536 Design Fault-Tolerant Dig Syst Credit: 4 hours.
Same as ECE 542. See ECE 542.

CRN	Type	Section	Time	Days	Location	Instructor
33992	lecture-discussion	C	10:30 AM - 11:50 AM	MW	room 260 Mechanical Engineering Bldg	Iyer, R

548 Comp Models of Cognitive Proc Credit: 4 hours.

Formal models and concepts in vision and language; detailed analysis of computer vision, language, and learning problems; relevant psychological results and linguistic systems; and survey of the state-of-the-art in artificial intelligence. Same as ECE 548. Prerequisite: CS 440.

CRN	Type	Section	Time	Days	Location	Instructor
31614	lecture-discussion	R	12:30 PM - 01:45 PM	TR	room 1131 Siebel Center for Comp Sci	Dejong, G
31614: 4 hours						

549 Seminar in Cognitive Science Credit: 2 or 4 hours.

Same as PSYC 514, ANTH 514, EPSY 551, LING 570, and PHIL 514. See PSYC 514.

CRN	Type	Section	Time	Days	Location	Instructor
30183	lecture-discussion	A	10:00 AM - 11:50 AM	M	room 5602 Beckman Institute	Cummins, R; Cummins, D

554 Parallel Numerical Algorithms Credit: 4 hours.

Introduction to numerical algorithms for parallel computers: parallel algorithms in numerical linear algebra (dense and sparse solvers for linear systems and the algebraic eigenvalue problem), numerical handling of ordinary and partial differential equations, and numerical optimization techniques. Same as CSE 512. Prerequisite: One of CS 450, CS 455, CS 458, or CS 459; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31618	lecture-discussion	C	10:00 AM - 10:50 AM	MWF	room 1131 Siebel Center for Comp Sci	Heath, M

570 Mesh Generation Credit: 4 hours.

Design of geometric algorithms for grids and triangulations. Development of geometric and topological prerequisites (no prior course in these subjects is assumed). Topics include complexes, subdivisions, Delaunay triangulations, randomized algorithms, homology groups, splines and surfaces. Same as CSE 514. Prerequisite: CS 473 or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
44444	lecture-discussion	C	09:30 AM - 10:45 AM	TR	room 13 Psychology Building	Ramos, E
44444: 4 hours						

572 Extremal Graph Theory Credit: 4 hours.

Same as MATH 581. See MATH 581.

CRN	Type	Section	Time	Days	Location	Instructor
38160	lecture-discussion	F1	02:00 PM - 02:50 PM	MWF	room 343 Altgeld Hall	West, D

573 Topics in Algorithms Credit: 4 hours.

Theoretical analysis of various algorithms; topics include sorting, searching, selection, polynomial evaluation, matrix multiplication, and multiplication of real numbers. Same as CSE 515. May be repeated. Prerequisite: CS 473 or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
43701	lecture	C	11:00 AM - 12:15 PM	TR	room 1131 Siebel Center for Comp Sci	Erickson, J
43701: 4 hours						

576 Topics in Automated Deduction Credit: 2 to 4 hours.

Advanced topics in computer-aided methods for formal deduction, selected from areas of current research, such as: resolution theorem proving strategies, special relations, equational reasoning, unification theory, rewrite systems, mathematical induction, program derivation, hybrid inference systems, and programming with logic. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31622	lecture-discussion	N	12:30 PM - 01:45 PM	TR	room 1109 Siebel Center for Comp Sci	Gunter, E

31622: 4 hours

591 Advanced Seminar in CS Credit: 0 to 4 hours.

Seminar on topics of current interest. Subjects will be announced in the Schedule. Approved for both letter and S/U grading. May be repeated in the same or subsequent terms as topics vary. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
31660	lecture-discussion	438	ARRANGED			Luo, H
31660: 1 hours This section is designated to complement CS 438, Communication Networks. Interested students must contact the instructor for approval to register. Prerequisite: Concurrent enrollment in CS 438. Credit: 1 hour.						
31625	lecture-discussion	ACT	ARRANGED			Padua, D; Adve, V; Marinov, D; Harrison, W
31625: 1 hours Topic: Advanced Compiler Technology. Prerequisite: CS 426. Credit: 1 hour.						
31647	lecture-discussion	AIM	ARRANGED			Erickson, J
31647: 1 hours Topic: Applied/Interdisciplinary Mathematics Seminar. Credit: 1 hour.						
31641	lecture-discussion	BIO	ARRANGED			Liu, L; Han, J; Schatz, B; Zhai, C; Sinha, S; Zhong, S
31641: 1 hours Topic: Advanced Seminar on Biomedical Informatics. Credit: 1 hour.						
31628	lecture-discussion	BPB	ARRANGED			Bailey, B
31628: 1 hours Topic: Seminar in Human-Computer Interaction. Credit: 1 hour.						
31623	lecture	DCS	04:00 PM - 04:50 PM	M	room 1404 Siebel Center for Comp Sci	Zilles, C
31623: 1 hours Topic: Department of CS Research Seminar. Credit: 1 hour.						
31652	lecture-discussion	DNR	ARRANGED			Roth, D
31652: 1 hours Topic: Learning and Knowledge. Credit: 1 hour.						
40245	lecture-discussion	EA	ARRANGED			Amir, E
40245: 1 hours Topic: "Broad-Area Seminar: AI-Learning-Vision-Robotics-HCI". Additional information at: http://reason.cs.uiuc.edu/aivr/Spring06 Credit: 1 hour.						
31637	lecture-discussion	GHY	ARRANGED			Garland, M; Hart, J; Yu, Y
31637: 1 hours Topic: Research Topics in Computer Graphics. Credit: 1 hour.						
40247	lecture-	HAN	ARRANGED			Han, J

	discussion					
40247: 1 hoursTopic: Advanced Seminar on Data Mining. Credit: 1 hour.						
40248	lecture-discussion	IG	ARRANGED			Gupta, I
40248: 1 hoursTopic: Advanced Seminar in Distributed Systems. Prerequisite: CS 425 or CS 598 IG or basic distributed systems knowledge. Credit: 1 hour.						
31635	lecture-discussion	JE	ARRANGED			Erickson, J
31635: 1 hoursTopic: Advanced Topics in Analysis of Algorithms. Prerequisite: CS 473G or CS 475 or consent of instructor. Credit: 1 hour.						
31649	lecture-discussion	JM	ARRANGED			Meseguer, J
31649: 1 hoursMAUDE: Theory and applications. Prerequisite: Credit or concurrent registration in CS 476 or consent of instructor. Credit: 1 hour.						
41587	lecture-discussion	KGK	ARRANGED			Karahalios, K
41587: 1 hoursTopic: Social Computing						
45489	lecture-discussion	LBP	ARRANGED			Thakkar, U; Pitt, L; Heeren, C
45489: 1 hoursIn this one-hour seminar course, undergraduates, graduate students, and faculty will work together to create a set of introductory, substantive, and engaging activities, each of which is carefully designed to illuminate some area of computer science research for a lay audience. These "excursions" will be used in a variety of contexts, including tours of the computer science department by prospective students, industrial guests, and the general public. Participants in the seminar will take the lead in creating the form and content of the excursions. Students will be expected to meet as a class once a week. Successful completion of the course will include participation in a group project whose product is an excursion, described above.						
40246	lecture-discussion	LVK	ARRANGED			Kale, L
40246: 1 hoursTopic: Parallel Objects for Resource Management and Fault Tolerance. Credit: 1 hour.						
31644	lecture-discussion	MH	ARRANGED			Heath, M
31644: 1 hoursTopic: Scientific and Parallel Computing.						
31659	lecture-discussion	MSW	ARRANGED			Winslett, M
31659: 1 hoursTopic: Database and Information Systems Seminar. Credit: 1 hour.						
31646	lecture-discussion	REJ	ARRANGED			Johnson, R
31646: 1 hoursTopic: Software Architecture Seminar. Credit: 1 hour.						
31630	lecture-discussion	RHC	ARRANGED		room ARR Siebel Center for Comp Sci	Campbell, R
31630: 1 hoursTopic: Security Reading Seminar. Prerequisite: CS 225 and CS 423. Credit: 1 hour.						

44443	lecture-discussion	SN	02:00 PM - 03:20 PM	F	room 1111 Siebel Center for Comp Sci	Vaidya, N; Kravets, R; Gupta, I; Luo, H
44443: 1 hoursTopic: New Systems and Networking Seminar. Credit: 1 Hour.						
31650	lecture-discussion	SRR	04:00 PM - 04:50 PM	R	room 1131 Siebel Center for Comp Sci	Ray, S
31650: Topic: Artificial Neural Networks and Computational Brain Theory. Prerequisite: Background in CS, AI and interest in neuroscience topics. Credit: 1 or 2 hours. (Two hour credit entails leading the discussion one time.)						

597 Individual Study Credit: 2 to 16 hours.

Individual study or reading in a subject not covered in normal course offerings. May be repeated. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10467	independent study		ARRANGED			
10467: Instructor Approval Required						
10467: Students must see the CS Department to receive the appropriate CRN for the instructor.						

598 Special Topics in CS Credit: 2 to 4 hours.

Lecture course in topics of current interest. See Schedule for current topics. May be repeated. Prerequisite: As specified for each topic offering, see Schedule or departmental course description.

CRN	Type	Section	Time	Days	Location	Instructor
43732	lecture-discussion	CAG	11:00 AM - 12:15 PM	WF	room 1304 Siebel Center for Comp Sci	Gunter, C
43732: 4 hoursTopic: Advanced Computer Security. Prerequisite CS 498CAG in 2005 or permission of instructor. This course enables students to understand and contribute to current research trends in computer and network security. Topics include secure web services, tamper-resistant software architectures, protection against unwanted traffic such as DoS and spam, security for large-scale critical infrastructure, security for mobile and ubiquitous computing, and security and privacy for healthcare.						
39668	lecture-discussion	DAF	11:00 AM - 12:15 PM	WF	room 1214 Siebel Center for Comp Sci	Forsyth, D
39668: 4 hoursTopic: Applications of Computer Vision.						
43815	lecture-discussion	DF2	03:30 PM - 04:45 PM	TR	room 1103 Siebel Center for Comp Sci	Forsyth, D
43815: 4 hoursTopic: Modern Rendering Methods. Prerequisite: Consent of Instructor.						

31662	lecture-discussion	EA	11:00 AM - 12:15 PM	WF	room 1131 Siebel Center for Comp Sci	Amir, E
31662: 4 hoursTopic: Decision-Making Under Uncertainty. Prerequisite: CS 440 or consent of Instructor. Additional information at: http://reason.cs.uiuc.edu/eyal/classes/sp06/cs598ea/						
43775	lecture-discussion	IG	09:30 AM - 10:45 AM	TR	room 1214 Siebel Center for Comp Sci	Gupta, I
43775: 4 hoursTopic: Advanced Topics in Distributed Systems. This course discusses classical and contemporary papers in peer-to-peer systems, sensor networks, and theoretical distributed computing. Students write a conference-quality paper through the course of the semester, helped by regular feedback from course staff and the class.						
43773	lecture-discussion	JH	12:30 PM - 01:45 PM	WF	room 1214 Siebel Center for Comp Sci	Hou, J
43773: 4 hoursTopic: Advanced Topics in Wireless Networks. In this course, we will discuss issues with better defining and characterizing wireless links and their implications for higher-layer protocol design and optimization. Specifically, we will study the following issues: (T1) Channel behavior understanding and modeling based on real-life measurement results, (T2) fundamental analysis of the achievable transport capacity of a wireless mesh network, (T3) inter-flow and intra-flow interference control, (T4) cross-layer design and optimization that can achieve substantial gains in overall network performance, (T5) multi-radio and multi-path multicast routing, (T6) systems prototyping and experimentation issues.						
43782	lecture-discussion	KCC	02:00 PM - 03:15 PM	WF	room 1302 Siebel Center for Comp Sci	Chang, K
43782: 4 hoursTopic: Information Access on the Web: Search, Integration, and Mining. Problems, algorithms, and prototypes for information search, integration, and mining on the Web.						
43781	lecture-discussion	MJG	12:30 PM - 01:45 PM	TR	room 1103 Siebel Center for Comp Sci	Garland, M
43781: 4 hoursTopic: Digital Geometry Processing. Prerequisite: CS 418. This course will explore advanced techniques for representing and processing 3-D geometric object models.						
31665	lecture-discussion	REJ	09:00 AM - 10:45 AM	TR	room 1304 Siebel Center for Comp Sci	Johnson, R
31665: 4 hoursTopic: Object-Oriented Programming and Design. Learn object-oriented design by studying examples from Squeak, many of which have been polished for 25 years. Learn about design patterns, how to use frameworks and how to design them, and reflection. Prerequisite: Graduate standing or Consent of Instructor.						
43771	lecture-discussion	RHK	02:00 PM - 03:15 PM	TR	room 1302 Siebel Center for Comp Sci	Kravets, R
43771: 4 hoursTopic: Advanced Topics in Network Protocols, Architectures and Applications. Prerequisite: CS 438 or equivalent is required; CS 423 or equivalent is recommended.						
41496	lecture-discussion	SOS	12:00 PM - 02:50 PM	F	room 1103 Siebel Center for Comp Sci	Gasser, L
41496: 4 hoursTopic: Self-Organizing Information Systems Cross-listed with LIS 590 SOS. This research seminar will investigate self-organizing properties of complex information systems and ways of designing						

adaptive, self-organizing information collections. Some examples of self-organizing information systems include collaborative filtering systems, adaptive websites, market-based information economies, self-generating language communities, and personal information collections. A methodological focus of the seminar will be the use of simulation methods as an investigative and design tool.

31663	lecture-discussion	SRR	02:00 PM - 03:15 PM	R	room 1131 Siebel Center for Comp Sci	Ray, S
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31663: 2 hours Topic: Artificial Neural Networks. This course covers a broad spectrum of the most useful and durable neural network architectures and associated concepts; theory of their learning algorithms, and practical applications are discussed.

599 Thesis Research Credit: 0 to 16 hours.
 May be repeated. Approved for S/U grading only. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10469	independent study		ARRANGED			
10469: Instructor Approval Required						
10469: Students must see the CS Department to receive the appropriate CRN for the instructor.						