	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
CICS 109 INTRO TO DATA ANALYSIS IN R Jasper McChesney		FRESHMEN AND SOPHOMORE NON-COMPSCI MAJORS ONLY.	STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
CICS 110 FOUNDATIONS OF PROGRAMMING Kirat Arora, Evan Ciccarelli, Dung Viet Pham, Cole Reilly, Bryn Reimer, Ella Tuson	COMPLETION OF THE R1 GEN ED (OR A SCORE OF 15 OR HIGHER ON THE MATH PLACEMENT TEST PART A), OR ONE OF THE FOLLOWING COURSES: MATH 101&102 OR MATH 104 OR MATH 127 OR MATH 128 OR MATH 131 OR MATH 132.	OPEN TO FRESHMAN, SOPHOMORE AND JUNIOR COMPSCI, INFORM, MATH, PHYSICS, COMP LINGUISTICS AND STATS & DATA SCIENCE MAJORS.	STUDENTS ARE NOT PERMITTED TO TAKE CICS 110 AFTER SUCCESSFULLY COMPLETING COMPSCI 121. AFTER ELIGIBLE CS, INFORM, MATH, PHYSICS, CMPLING AND STATS & DATA SCI MAJORS HAVE ENROLLED, WILL OPEN TO ALL UNDERGRADUATE FRESHMEN, SOPHOMORE, AND JUNIORS, IF AVAILABLE SEATS. FRESHMEN, SOPHOMORE, AND JUNIORS IN OTHER MAJORS SHOULD WAIT FOR THE ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. LEC 01 IS RESERVED FOR STUDENTS IN FIERCE RAP ONLY. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
CICS 127 INTRO TO PUBLIC INTEREST TECH Emily Nutwell		UNDERGRADUATES ONLY.	THIS COURSE COUNTS TOWARDS THE IT MINOR AND IS REQUIRED FOR THE PIT UNDERGRADUATE CERTIFICATE.
CICS 160 OBJECT-ORIENTED PROGRAMMING Neha Kennard, Cole Reilly, Ella Tuson	CICS 110 (PREVIOUSLY INFO 190S) OR COMPSCI 121 WITH A GRADE OF C OR BETTER.	UNDERGRADUATE CS, INFORM, COMP LING OR MATH MAJORS IN THE MATHCMPTNG SUBPLAN ONLY.	STUDENTS ARE NOT PERMITTED TO TAKE CICS 160 AFTER SUCCESSFULLY COMPLETING COMPSCI 186. USE OF PERSONAL LAPTOP IN CLASS IS REQUIRED. AFTER ELIGIBLE CS, INFORM, COMP LING AND MATH MAJORS IN THE MATHCMPTNG SUBPLAN HAVE ENROLLED, WILL OPEN TO OTHER MAJORS, IF AVAILABLE SEATS. ELIGIBLE NON-MAJORS SHOULD WAIT FOR THE MAJOR ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ONLINE FORM: https://www.cics.umass.edu/academics/course-overrides.
CICS 210 DATA STRUCTURES Mordecai Golin, Marc Liberatore	CICS 160 (PREVIOUSLY INFO 190T) WITH A GRADE OF C OR BETTER.	UNDERGRADUATE CS, INFORM, COMP LING OR MATH MAJORS IN THE MATHCMPTNG SUBPLAN ONLY.	STUDENTS ARE NOT PERMITTED TO TAKE CICS 210 AFTER SUCCESSFULLY COMPLETING COMPSCI 187. AFTER ELIGIBLE CS, INFORM COMP LING AND MATH MAJORS IN THE MATHCMPTNG SUBPLAN HAVE ENROLLED, WILL OPEN TO OTHER MAJORS, IF AVAILABLE SEATS. ELIGIBLE NON-MAJORS SHOULD WAIT FOR THE MAJOR ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
CICS 256 MAKE: PHYSICAL COMPUTING Donghyun Kim	CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER AND BASIC MATH SKILLS (R1).	FRESHMAN, SOPHOMORE AND JUNIOR BS-CS MAJORS ONLY.	NO OPTION FOR PASS/FAIL. THIS COURSE HAS A REQUIRED LAB SECTION AND COUNTS TOWARD THE CS LAB SCIENCE REQUIREMENT FOR THE BS-CS. THIS OFFERING IS OPEN TO JUNIOR, SOPHOMORE AND FRESHMEN BS-CS MAJORS ONLY. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
CICS 291C S-FIND STRENGTHS/DESIGN CAREER Casey Maloney		CS AND INFORM SOPHOMORES AND JUNIORS ONLY.	MANDATORY PASS/FAIL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
CICS 291T S-CICS TRANSFER SUCCESS Casey Maloney			DEPARTMENT CONSENT REQUIRED: OPEN TO INCOMING CS AND INFORM TRANSFER STUDENTS ONLY.
CICS 296P IS-PIT CLINIC Emily Nutwell, Virginia Partridge			INSTRUCTOR CONSENT REQUIRED. STUDENTS MUST BE ENROLLED IN THE AI4CW PROGRAM.

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
CICS 298A P-LEADRSHP:COMMUNCTNG-EXPRTISE Boming Zhang	CICS 160, COMPSCI 186, COMPSCI 187, OR CICS 210 WITH A GRADE OF C OR BETTER.	CS AND INFORM MAJORS ONLY.	STUDENTS IN OTHER MAJORS MAY BE CONSIDERED IF AVAILABLE SEATS. STUDENTS FROM OTHER MAJORS MAY BENEFIT FROM THIS COURSE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
CICS 305 SOC ISS IN CMPTNG Erin Butler, Siobhan Meï, Justin Obara, Christina Sutcliffe	CS MAJORS: ENGLWRIT 112 WITH A GRADE OF C OR BETTER (OR ENGLISH WRITING WAIVER) AND COMPSCI 220, COMPSCI 230 AND EITHER COMPSCI 240 OR COMPSCI 250. INFORM MAJORS: ENGLWRIT 112 WITH A GRADE OF C OR BETTER (OR ENGLISH WRITING WAIVER) AND INFO 248.	ODD LECS: SENIOR AND JUNIOR CS MAJORS ONLY. RESTRICTED TO CS PRIMARY MAJORS. EVEN LECS: SENIOR AND JUNIOR INFORMATICS MAJORS ONLY. RESTRICTED TO INFORMATICS PRIMARY MAJORS.	SATISFIES JUNIOR YEAR WRITING REQUIREMENT. ODD LECTURES FOR CS MAJORS; EVEN LECTURES FOR INFORM MAJORS. ELIGIBILITY LIMITED TO CS AND INFORM PRIMARY MAJORS ONLY. CS AND INFORM SECONDARY MAJORS MUST TAKE JUNIOR YEAR WRITING COURSE WITHIN PRIMARY MAJOR DEPARTMENT. LECT 01-02 MEET TOGETHER; LECT 03-04, ETC. SPIRE WILL ONLY RECOGNIZE THE ENGLWRIT112 PREREQUISITE WHEN TAKEN AT UMASS AMHERST. ELIGIBLE MAJORS WITH AP CREDIT, TRANSFER CREDIT, OR A WAIVER FOR ENGLWRIT112 WHO MEET THE OTHER STATED PREREQUISITES WILL NEED ASSISTANCE TO ENROLL VIA THE OVERRIDE FORM: https://www.cics.umass.edu/academics/courseoverrides
CICS 396A IS-DIRECTED RESEARCH GROUP Neena Thota			STUDENTS MUST BE ENROLLED IN THE ERSP PROGRAM AND SUCCESSFULLY COMPLETED CICS 237 INTRODUCTION TO RESEARCH IN THE DISCIPLINE IN THE FALL. THEY ARE THEN ENROLLED IN THIS COURSE IN THE SPRING OF THE SECOND YEAR. CS AND INFORM MAJORS MAY PETITION TO COUNT AS A MAJOR ELECTIVE. UPD APPROVAL REQUIRED, SUBJECT TO PROGRAM RULES THAT APPLY TO INDEPENDENT STUDY COURSES.
CICS 398T P-CPT , Jack Wileden		UNDERGRADUATE CS AND INFORM MAJORS ONLY.	INTERNATIONAL UNDERGRADUATE STUDENTS SHOULD REFER TO THE IPO WEBSITE FOR DETAILS ABOUT CURRICULAR PRACTICAL TRAINING (CPT). SEE DETAILS ABOUT REGISTRATION AND THE CPT APPLICATION PROCESS FOR CS MAJORS: https://cicscareers.notion.site/CPT-Process-for-Internships-c0f1d14ccfe5448ba786583a49993209
CICS 590P TECHNLGY POLICY AND INNOVATION Emily Nutwell, Carolina Rossini	UNDERGRADUATES: CICS 305 WITH A GRADE OF COR BETTER.	LEC 01: JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	CROSS-LISTED WITH SPP 590P. LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. CS/INFORM MAJORS WHO HAVE COMPLETED AN ALTERNATE JYW COURSE WITH A C OR BETTER WILL BE CONSIDERED. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
CICS 598T P-CPT Jack Wileden, Hao Zhang		CMPSCI GRADUATE STUDENTS ONLY.	COMPUTER SCIENCE GRADUATE STUDENTS INTERESTED IN PURSUING CPT MUST SUBMIT AN EXPERIENTIAL LEARNING REQUEST IN SPIRE. STAFF WILL ENROLL GRADUATE STUDENTS FOR FALL AND SPRING IN THE UNIV SECTION AND FOR WINTER AND SUMMER IN THE UWW SECTION. DETAILS ABOUT REGISTRATION AND THE CPT APPLICATION PROCESS FOR CMPSCI GRADUATE STUDENTS: https://cicscareers.notion.site/CPT-Process-for-Internships-c0f1d14ccfe5448ba786583a49993209
COMPSCI 119 INTRO PROGRAMMING Aline Weber		FRESHMEN AND SOPHOMORE NON-CS MAJORS ONLY.	CS MAJORS ARE NOT ELIGIBLE FOR THIS COURSE. AFTER SOPHOMORE AND FRESHMEN REGISTER, WILL OPEN TO JUNIORS. IF AVAILABLE SEATS, WILL OPEN TO ALL UNDERGRADUATE NON-CS MAJORS. NON-CS JUNIORS SHOULD WAIT FOR THE ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 198C P-INTRO-C PROGRAMMING LANGUAGE Meng-Chieh Chiu, Timothy Richards	CICS 160 (PREVIOUSLY INFO 190T OR COMPSCI 186 OR CICS 210) WITH A GRADE OF C OR BETTER OR COMPSCI 121 WITH A GRADE OF B OR BETTER.	FRESHMEN, SOPHOMORE, AND JUNIORS ONLY.	STARTING FALL 2023, PASSING COMPSCI 198C IS A REQUIRED PREREQUISITE FOR COMPSCI 230. STUDENTS WITH AP OR TRANSFER CREDIT FOR COMPSCI 121 WILL NEED AN OVERRIDE FOR REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 220 PGMG METHODOLOGY Marius Minea, James Perretta	CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER.	CS MAJORS ONLY.	SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. REMAINING SEATS WILL BE RELEASED AT THAT TIME. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 230 CMPTR SYS PRINC Phuthipong Bovornkeeratiroj, Meng-Chieh Chiu	CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER AND COMPSCI 198C.	CS MAJORS ONLY.	STARTING FALL 2023, PASSING COMPSCI 198C IS A REQUIRED PREREQUISITE. SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 240 RSNG UNDER UNCERTAINTY Justin Domke, Ghazaleh Parvini	CICS 160 (PREVIOUSLY INFO 190T OR COMPSCI 187 OR CICS 210) AND MATH 132, BOTH WITH A GRADE OF C OR BETTER.	CS AND COMP LING MAJORS ONLY.	SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 250 INTRO TO COMPUTATION David Barrington, Mordecai Golin	CICS 160 (PREVIOUSLY INFO 190T OR COMPSCI 187 OR ECE 241 OR CICS 210) AND MATH 132, BOTH WITH A GRADE OF C OR BETTER.	CS, CSENG, AND MATH MAJORS ONLY.	SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 311 INTRO TO ALGORITHMS Ghazaleh Parvini, Cooper Sigrist	CICS 210 (OR COMPSCI 187) AND COMPSCI 250 (OR MATH 455), BOTH WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS OR MATH MAJORS IN THE MATHCMPTNG SUBPLAN ONLY.	SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. AFTER JUNIOR AND SENIOR CS MAJORS OR MATH MAJORS IN THE MATHCMPTNG SUBPLAN REGISTER, WILL OPEN TO SOPHOMORES. SOPHOMORE, JUNIOR AND SENIOR CS, INFORM, COMP LING OR MATH MAJORS IN THE MATHCMPTNG SUBPLAN SHOULD WAIT FOR THE ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 320 INTRO TO SOFTWARE ENGINEERING Jaime Davila, James Perretta	COMPSCI 220 WITH GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	NO OPTION FOR PASS/FAIL. SATISFIES INTEGRATIVE EXPERIENCE REQUIREMENT FOR CS MAJORS. MEETS WITH COMPSCI 429. GRADUATING SENIORS ARE PRIORITIZED AND PRE-ENROLLED BY THE PROGRAM. SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. AFTER JUNIOR AND SENIOR CS MAJORS REGISTER, WILL OPEN TO SOPHOMORES. SOPHOMORE CS MAJORS SHOULD WAIT FOR THE ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL AND SHOULD NOT REQUEST AN OVERRIDE. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 325 INTRO TO HUMAN CMPTR INTERACTN Ella Tuson	CS MAJORS: CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER. INFORM MAJORS: INFO 248 AND CICS 160 (PREVIOUSLY INFO 190T OR COMPSCI 186 OR COMPSCI 187), BOTH WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	SEATS SAVED FOR INFORM MAJORS AND INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD AT THE END OF JULY. REMAINING SEATS WILL BE RELEASED AT THAT TIME. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 326 WEB PROGRAMMING Meng-Chieh Chiu, Timothy Richards	COMPSCI 220 WITH A GRADE OF C OR BETTER [OR INFO 248 AND CICS 210 (OR COMPSCI 187), BOTH WITH A GRADE OF C OR BETTER].	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	NO OPTION FOR PASS/FAIL. SATISFIES INTEGRATIVE EXPERIENCE REQUIREMENT FOR CS AND INFORM MAJORS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 345 PRACT & APPLICS OF DATA MGMT Gordon Anderson, Jaime Davila, Neha Makhija	CS MAJORS: CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER. INFORM MAJORS: INFO 248 AND CICS 160 (PREVIOUSLY INFO 190T OR COMPSCI 186 OR COMPSCI 187), BOTH WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	SEATS ARE BEING SAVED FOR INCOMING TRANSFER STUDENTS UNTIL THE END OF NEW STUDENT ORIENTATION AND TRANSFER (NSOT) ENROLLMENT PERIOD. LEC 01/02 WILL OPEN TO JR/SR INFORM MAJORS ONLY. ALL SECTIONS WILL OPEN TO JR/SR CS AND INFORM MAJORS AFTER JR RAMP ON. REMAINING SEATS WILL BE RELEASED PRIOR TO CLASS START. STUDENTS ARE EXPECTED TO HAVE BASIC PROGRAMMING SKILLS, AND BE ABLE TO USE LAPTOPS IN CLASS. STUDENTS WHO HAVE TAKEN COMPSCI 445 ARE NOT ELIGIBLE AND SHOULD NOT ENROLL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ONLINE FORM: https://www.cics.umass.edu/academics/course-overrides.

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 348 PRINCIPLES OF DATA SCIENCE	CICS 210 (OR COMPSCI 187), COMPSCI 240, AND COMPSCI 250 (OR MATH 455), ALL WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
Matthew Rattigan			
COMPSCI 360 INTRO COMPUTER/NETWRK SECURITY	COMPSCI 230 WITH GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
Eugene Bagdasarian			
COMPSCI 377 OPERATING SYSTEMS	COMPSCI 230 WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
Phuthipong Bovornkeeratiroj			
COMPSCI 383 ARTIFICIAL INTELLIGENCE Matthew Rattigan	CS MAJORS: (CICS 210 OR COMPSCI 187) AND COMPSCI 240 (OR STATISTC 315), BOTH WITH A GRADE OF C OR BETTER. INFORM MAJORS: INFO 348 AND STATISTC 315, BOTH WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	SOME KNOWLEDGE OF PYTHON IS ASSUMED FOR ELIGIBLE STUDENTS TO USE COMPSCI 187 IN PLACE OF THE CICS 210 PREREQUISITE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 389 INTRO TO MACHINE LEARNING Philip Thomas	CICS 210 (OR COMPSCI 187) AND (COMPSCI 240 OR STATISTC 315 OR STATISTC 240 OR PSYCH 240 OR OIM 240 OR RES-ECON 212 OR SOCIOL 212) AND MATH 132, ALL WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	STUDENTS WHO HAVE COMPLETED COMPSCI 589 ARE NOT ELIGIBLE FOR THIS COURSE AND SHOULD NOT ENROLL. STUDENTS WITH PRIOR EXPERIENCE IN MACHINE LEARNING OR WHO ARE ALREADY PASSIONATE ABOUT THE SUBJECT ARE ENCOURAGED TO TAKE COMPSCI 589 INSTEAD. ELIGIBLE STUDENTS WHO HAVE COMPLETED COMPSCI 187 WITH A C OR BETTER MAY USE IT IN PLACE OF CICS 210; DO NOT REQUEST AN OVERRIDE, BUT WAIT FOR THE CHANGE TO SHOV ON SPIRE TO SELF-ENROLL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 390B HARNESS DATA SCI-SOCIETAL GOOD Abhidip Bhattacharyya	CICS 210 (OR COMPSCI 187) AND (COMPSCI 220 OR COMPSCI 230 OR INFO 248) AND (COMPSCI 240 OR STATISTC 240 OR PSYCH 240 OR OIM 240 OR RESECON 212 OR SOCIOL 212 OR STATISTC 315), ALL WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	NO PASS/FAIL OPTION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUES OVERRIDES VIA ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrid
COMPSCI 398A P-CREDITED INTERNSHIP			CICS CAREERS AND INSTRUCTOR PERMISSION REQUIRED.
COMPSCI 420 SOFTWARE ENTREPRENEURSHIP Neena Thota	COMPSCI 320 (OR COMPSCI 326) WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	THIS COURSE QUALIFIES AS A 'CAPSTONE COURSE' FOR THE UNDERGRADUATE CERTIFICATE IN PUBLIC INTEREST TECHNOLOGY, ASSUMING THE STUDENT WORI PRODUCED IS DEEMED SUITABLE BY THE INSTRUCTOR. MAKE SURE TO DISCUSS USING THIS COURSE FOR THIS PURPOSE WITH THE INSTRUCTOR AT THE BEGINNING OF THE COURSE. FOR MORE INFORMATION ON THE CERTIFICATE: https://groups.cs.umass.edu/pit/undergraduate-pit-certificate/. STUDENTS ENROLLED IN THE UNDERGRADUATE CERTIFICATE IN PUBLIC INTEREST TECHNOLOGY ARE ELIGIBLE VIA OVERRIDE. IF YOU HAVE QUESTIONS ABOUT THE PIT CERTIFICATE, EMAIL THE PIT CERTIFICATE PROGRAM DIRECTOR, PROFESSOR CHARLIE SCHWE AT cschweik@umass.edu. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 426 SCALABLE WEB SYSTEMS Timothy Richards	COMPSCI 320 OR COMPSCI 326 WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY.	IT IS RECOMMENDED TO HAVE COMPLETED COMPSCI 220 (PROGRAMMING METHODOLOGY) AND COMPSCI 230 (COMPUTER SYSTEMS PRINCIPLES), OR COMPSCI 377 (OPERATING SYSTEMS), HOWEVER, THIS IS NOT REQUIRED BUT WILL MAKE YOUR EXPERIENCE MORE RICH (E.G., BACKGROUND IN WEB APP DEPLOYMENT, BASIC SECURITY, NETWORK PROTOCOLS, PROCESSES, CLIENT SERVER ARCHITECTURE, AND GENERAL OPERATING SYSTEMS CONCEPTS). STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 429 SOFTWARE ENGINEERING PROJ MGMT Jaime Davila, James Perretta	COMPSCI 320 WITH A GRADE OF B OR BETTER.	UNDERGRADUATE CS MAJORS ONLY.	INSTRUCTOR CONSENT REQUIRED. MEETS WITH COMPSCI 320. ELIGIBLE STUDENTS MAY EMAIL INSTRUCTOR FOR PERMISSION TO ENROLL. ONCE APPROVED TO ENROLL, REFER TO INSTRUCTOR PERMISSION ON THE OVERRIDE REQUEST AND SUBMIT VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 445 INFORMATION SYSTEMS Trek Palmer	COMPSCI 220 (OR COMPSCI 230) AND COMPSCI 311 AND COMPSCI 345, ALL WITH GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	WITH INSTRUCTOR PERMISSION, STUDENTS WITH PRIOR EXPERIENCE IN DATABASES MAY SUBSTITUTE ONE OF COMPSCI 320, 326, OR 377 WITH A GRADE OF C OR BETTER FOR THE COMPSCI 345 PREREQUISITE. IF AVAILABLE SEATS, STUDENTS WHO ARE NOT CS MAJORS BUT HAVE SUFFICIENT PROGRAMMING EXPERIENCE OR CS GRADUATE STUDENTS MAY SUBMIT AN OVERRIDE FOR INSTRUCTOR CONSIDERATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 446 SEARCH ENGINES Razieh Rahimi	COMPSCI 240 OR COMPSCI 383 WITH A GRADE OF COR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	INSTRUCTOR WILL CONSIDER STATISTC 315/515 AS AN ALTERNATE PREREQUISITE IN PLACE OF COMPSCI 240 VIA OVERRIDE IF AVAILABLE SEATS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 453 COMPUTER NETWORKS Arun Venkataramani	COMPSCI 230 (OR COMPSCI 377) WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS WILL BENEFIT SIGNIFICANTLY FROM A PRIOR OR CONCURRENT EXPOSURE TO PROBABILITY (COMPSCI 240), ALGORITHMS (COMPSCI 311), AND MULTI-THREADED PROGRAMMING (COMPSCI 377 OPERATING SYSTEMS) ALTHOUGH THESE ARE NOT STRICT PREREQUISITES, STUDENTS MUST BE ABLE TO PROGRAM IN A STRUCTURED HIGH-LEVEL PROGRAMMING LANGUAGE, SUCH AS JAVA, C OR C++, PYTHON, ETC. PROGRAMMING PROJECTS IN A LANGUAGE OF STUDENT CHOICE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 466 APPLIED CRYPTOGRAPHY Adam O'Neill	COMPSCI 311 WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS WHO HAVE TAKEN HIGHER-LEVEL MATHEMATICS (IN PARTICULAR MATH 411, MATH 455, MATH 471, OR MATH 513/COMPSCI 575) ARE PARTICULARLY INVITED TO ENROLL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 485 APPLICATIONS OF NLP Katrin Erk	COMPSCI 220 AND COMPSCI 240, BOTH WITH A GRADE OF C OR BETTER (OR LINGUIST 429H/492B WITH A GRADE OF C OR BETTER).	JUNIOR AND SENIOR CS AND COMP LING MAJORS ONLY.	PREVIOUSLY COMPSCI 490A. STUDENTS FROM OTHER DISCIPLINES WILL BE CONSIDERED AS WELL IF AVAILABLE SEATS. STUDENTS NEEDING INSTRUCTOR PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 491G S-COMPUTER NETWORKING LAB Parviz Kermani	COMPSCI 453 WITH A GRADE OF C OR BETTER.	JUNIOR AND SENIOR CS MAJORS ONLY.	STUDENTS MAY WORK INDEPENDENTLY IN LGRT 224 TO COMPLETE LAB ASSIGNMENTS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 501 FORMAL LANGUAGE THEORY David Barrington	UNDERGRADUATES: COMPSCI 311 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS AND MATH MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. IT IS RECOMMENDED THAT UNDERGRADUATE STUDENTS HAVE A GRADE OF B- OR BETTER IN COMPSCI 311 IN ORDER TO ATTEMPT 501. INSTRUCTOR WILL CONSIDER CONCURRENT ENROLLMENT WITH COMPSCI 311 FOR STUDENTS WHO HAVE COMPLETED COMPSCI 250 WITH A GRADE OF A, IF AVAILABLE SEATS. SEATS HELD IN LECT 02 FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	<u>PREREQUISITES</u>	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 508 ETHICAL CONSIDRTNS IN COMPUTNG Michelle Trim	UNDERGRADUATES: CICS 305 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS AND INFORM MAJORS ONLY. LEC 02: CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. THIS COURSE FULFILLS THE ETHICS REQUIREMENT FOR HLS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 513 LOGIC IN COMPUTER SCIENCE Marius Minea	UNDERGRADUATES: COMPSCI 250 AND COMPSCI 311 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	MEETS WITH COMPSCI 613. LECT 01 FOR UNDERGRADS; LECT 02 FOR GRADS. SEATS SAVED IN LECT 02 FOR INCOMING STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 514 ALGORITHMS FOR DATA SCIENCE Cameron Musco	UNDERGRADUATES: COMPSCI 240 (OR STATISTCS 515) AND COMPSCI 311, BOTH WITH A GRADE OF B+ OR BETTER (OR COMPSCI 240, STATISTCS 315/515, COMPSCI 311, MATH 233, AND MATH 235, ALL WITH A GRADE OF C OR BETTER).	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS HELD IN LEC 02 FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 520 THEORY AND PRACTICE-SOFTENGIN Heather Conboy	UNDERGRADUATES: COMPSCI 320 (OR COMPSCI 220 AND COMPSCI 326) WITH C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS HELD IN LEC 02 FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 528 MOBILE AND UBIQ COMPUTING Phuc Nguyen	UNDERGRADUATES: COMPSCI 230 AND COMPSCI 240 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS HELD IN LEC 02 FOR INCOMING GRAD STUDENT REGISTRATION. SOME BACKGROUND IN MACHINE LEARNING, SIGNAL PROCESSING, EMBEDDED SYSTEMS, PHYSICAL COMPUTING IS HELPFUL. INSTRUCTOR PERMISSION FOR STUDENTS WITH ALTERNATE PREREQUISITES. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ONLINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 532 SYSTEMS FOR DATA SCIENCE Peter Klemperer	UNDERGRADUATES: COMPSCI 377 AND COMPSCI 445, BOTH WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY. C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY.	UO1 LEC 01 FOR UNDERGRADS; UO1 LEC 02 FOR ELIGIBLE MS-CMPSCI GRADS; SEATS HELD IN LEC 02 FOR INCOMING STUDENT REGISTRATION. C1 LEC 01 FOR ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY. COURSE IS ONLINE WITH OPTIONAL SYNCHRONOUS LIVE LECTURES ON MW 4:00-5:15 PM EDT. ALL EXAMS WILL BE IN-PERSON FOR ALL STUDENTS WHO ARE NOT ENROLLED IN THE ONLINE MS-CMPSCI PROGRAM. PHDS OR ANY STUDENT WITH A TUITION WAIVER CANNOT ENROLL IN C1 LEC 01. PHD OR OTHER GRADUATE LEVEL STUDENTS WHO NEED A UNIVERSITY COURSE SHOULD REGISTER IN UO1 LEC 02. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 535 COMPUTER ARCHITECTURE Charles Weems	UNDERGRADUATES: COMPSCI 335 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS HELD IN LEC 02 FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 546 APPLIED INFORMATION RETRIEVAL Hamed Zamani	UNDERGRADUATES: COMPSCI 320 (OR COMPSCI 326) AND COMPSCI 383 (OR COMPSCI 389 OR COMPSCI 446 OR COMPSCI 485 OR COMPSCI 585) BOTH WITH C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS SAVED IN LEC 02 FOR INCOMING STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 561 SYSTEM DEFENSE AND TEST Parviz Kermani	UNDERGRADUATES: COMPSCI 360 (OR COMPSCI 460 OR COMPSCI 560 OR COMPSCI 660 OR E&C-ENG 371) AND COMPSCI 453 (OR E&C-ENG 325), BOTH WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: GRADUATE CMPSCI AND ECE STUDENTS ONLY. C1 LEC 01: GRADUATE CMPSCI STUDENTS ONLY.	UNIV LEC 01 FOR UNDERGRADS; UNIV LEC 02 FOR GRADS. IF AVAILABLE SEATS, ELIGIBLE CSENG MAJORS WITH ECE 371 AND ECE 325 MUST WAIT FOR COURSE TO OPEN TO SELF-ENROLL (DO NOT REQUEST OVERRIDES). U+ LEC 01: ONLINE COURSE FOR GRADUATE CMPSCI STUDENTS ONLY. GRADUATE STUDENTS FROM OTHER DEPARTMENTS WITH INSTRUCTOR PERMISSION, IF AVAILABLE SEATS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 564 CYBER EFFECTS Nick Merlino, Edward Walters	UNDERGRADUATES: COMPSCI 230 (OR E&C-ENG 322) AND COMPSCI 360 (PREVIOUSLY COMPSCI 460 OR COMPSCI 365 OR COMPSCI 390R OR COMPSCI 466 OR E&C-ENG 371), BOTH WITH A GRADE OF C OR BETTER.	LEC 01: JUNIORS AND SENIORS ONLY. LEC 02: GRADUATE CMPSCI AND ECE STUDENTS ONLY. C1 LEC 01: GRADUATE CMPSCI STUDENTS ONLY.	UNIV LEC 01 FOR UNDERGRADS; UNIV LEC 02 FOR GRADS. UNDERGRADS MAY SUBSTITUTE ANY INTRODUCTION TO COMPUTER/NETWORK SECURITY COURSE AT THE 300-LEVEL OR HIGHER WITH A GRADE OF C OR BETTER FOR COMPSCI 360, WITH PERMISSION OF INSTRUCTOR. SEATS HELD IN LEC 02 FOR INCOMING STUDENT REGISTRATION. GRADUATE STUDENTS FROM OTHER DEPARTMENTS WITH INSTRUCTOR PERMISSION, IF AVAILABLE SEATS. U+ LEC 01: OTHER GRADUATE STUDENTS MAY BE CONSIDERED WITH INSTRUCTOR PERMISSION. SYNCHRONOUSLY REMOTE ATTENDANCE VIA ZOOM REQUIRED. STUDENTS SHOULD ATTEND ALL LECTURE SESSIONS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 589 MACHINE LEARNING Bruno Castro da Silva	UNDERGRADUATES: [MATH 545 AND STATISTCS 315 (PREVIOUSLY STATISTCS 515) AND COMPSCI 240, ALL WITH A GRADE OF C OR BETTER.] OR [MATH 545 WITH A GRADE OF C OR BETTER AND COMPSCI 240 WITH A GRADE OF B+ OR BETTER.] OR [MATH 235 AND MATH 233, BOTH WITH A GRADE OF B+ OR BETTER, AND STATISTCS 315 (PREVIOUSLY STATISTCS 515) AND COMPSCI 240, BOTH WITH A GRADE OF C OR BETTER.] OR [MATH 235 AND MATH 233 AND COMPSCI 240, ALL WITH A GRADE OF B+ OR BETTER.]	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI GRADUATE STUDENTS ONLY.	LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. SEATS HELD IN LEC 02 FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 590AB QUANTUM CRYPTOGRAPHY Filip Rozpedek	UNDERGRADUATES: COMPSCI 412/490Q (OR COMPSCI 590Q OR COMPSCI 590QC OR E&C-ENG 550 OR PHYSICS 537) WITH A GRADE OF C OR BETTER.	LEC 01: SENIOR CS, MATH, PHYSICS, AND EE MAJORS ONLY. LEC 02: CMPSCI GRADUATE STUDENTS ONLY.	MEETS WITH COMPSCI 690BB. LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. STUDENTS WHO TAKE THIS COURSE CANNOT SIMULTANEOUSLY, NOR LATER, ENROLL IN 690BB. SWAPPING BETWEEN 590AB AND 690BB IS ONLY CONSIDERED BEFORE THE END OF ADD/DROP. SEATS HELD FOR INCOMING GRADUATE STUDENT REGISTRATION. TITLE/DESCRIPTION CHANGE, EFFECTIVE SPRING 2025. THIS COURSE REQUIRES PREVIOUS KNOWLEDGE OF THE BASICS OF QUANTUM INFORMATION. STUDENTS ENROLLING IN THIS COURSE NEED TO BE FAMILIAR WITH THE FOLLOWING CONCEPTS COVERED IN ANY OF: COMPSCI 412/490Q, COMPSCI 590Q, COMPSCI 590QC, COMPSCI 648, COMPSCI 690QC, E&C-ENG 550, E&C-ENG 650, PHYSICS 537 AND CORRESPONDING MATHEMATICAL FORMALISM: 1) PURE STATES OF QUANTUM SYSTEMS AND QUBITS IN PARTICULAR 2) PROJECTIVE MEASUREMENTS IN A BASIS 3) UNITARY TRANSFORMATIONS 4) BLOCH SPHERE REPRESENTATION OF A QUBIT 5) BASICS OF THE DENSITY MATRIX FORMALISM. THIS COURSE COUNTS TOWARD THE MS SECURITY CONCENTRATION AND THE GRADUATE CERTIFICATE IN INFORMATION SECURITY. MATH, PHYSICS, AND EE GRADUATE STUDENTS SHOULD REQUEST AN OVERRIDE FOR CONSIDERATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE
COMPSCI 590AE MOBILE AND WIRELESS NETWORKS James Kurose	UNDERGRADUATES: COMPSCI 453 OR E&C-ENG 374 WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS, EE, AND CSENG MAJORS ONLY. LEC 02: MS-CMPSCI AND MS-ECE STUDENTS ONLY. UO1 LEC 01: JUNIOR AND SENIOR CS, EE, AND CSENG MAJORS ONLY. UO2 LEC 02: MS-CMPSCI AND MS-ECE STUDENTS ONLY. C1 LEC 01: MS-CMPSCI ONLINE PROGRAM STUDENTS ONLY.	U1 LEC 01 IS AN IN-PERSON SECTION FOR UNDERGRADS; U1 LEC 02 IS AN IN-PERSON SECTION FOR GRADS; U01 LEC 01 IS A FULLY ONLINE SECTION FOR UNDERGRADS AND U01 LEC 02 IS A FULLY ONLINE SECTION FOR GRADS. ONLINE STUDENTS WILL BE PROVIDED RECORDED ONLINE LECTURES. ALL EXAMS WILL BE IN-PERSON FOR ALL STUDENTS WHO ARE NOT ENROLLED IN THE MS-CMPSCI ONLINE PROGRAM. AIMED MORE AT CS STUDENTS RATHER THAN EE STUDENTS. ASSUMES STUDENTS HAVE ALREADY HAD AN INTRODUCTORY NETWORKING COURSE (I.E., COMPSCI 453, E&C-ENG 374, OR EQUIVALENT). COURSE WILL OPEN TO EE MAJORS MEETING PREREQUISITE, IF AVAILABLE SEATS. EE MAJORS SHOULD WAIT FOR ELIGIBILITY TO OPEN TO SELF-ENROLL OR ADD TO THE WAITLIST AND SHOULD NOT REQUEST AN OVERRIDE. SEATS HELD FOR INCOMING GRADUATE STUDENT REGISTRATION. C1 LEC 01 FOR MS-CMPSCI ONLINE PROGRAM STUDENTS ONLY. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 590QC QUANTUM COMMUNICATION Gayane Vardoyan	UNDERGRADUATES: MATH 235 AND COMPSCI 240 (OR STATISTC 315/515), BOTH WITH A GRADE OF C OR BETTER.	LEC 01: JUNIOR AND SENIOR CS MAJORS ONLY. LEC 02: MS-CMPSCI STUDENTS ONLY.	MEETS WITH COMPSCI 690QC. LEC 01 FOR UNDERGRADS; LEC 02 FOR GRADS. STUDENTS CAN ONLY RECEIVE CREDIT FOR EITHER 590QC OR 690QC, NOT BOTH, REGARDLESS OF SEMESTER. SWAPPING BETWEEN 590QC AND 690QC IS ONLY CONSIDERED BEFORE THE END OF ADD/DROP. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. FAMILIARITY WITH PROBABILITY THEORY, LINEAR ALGEBRA, AND COMPLEX NUMBERS. NO PRIOR FAMILIARITY WITH QUANTUM CONCEPTS NEEDED. PHYSICS STUDENTS SHOULD WAIT UNTIL OPEN TO SELF-ENROLL. ALTHOUGH NOT ON THE LIST OF PRE-APPROVED INFORM ELECTIVES, INTERESTED JUNIOR AND SENIOR INFORM MAJORS MEETING PREREQUISITE WILL BE CONSIDERED VIA OVERRIDE. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

COMPSCI 596E

IS-ML APPLIED TO CHILD RESCUE

LEC 01: SENIOR CS MAJORS AND CS GRADUATE STUDENTS ONLY.
C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY.

INSTRUCTOR PERMISSION REQUIRED. CS SENIOR OR CS GRADUATE STUDENT WITH A MACHINE LEARNING BACKGROUND. WE EXPECT HIGH GRADES IN COMPSCI 589 OR COMPSCI 682. PHDS OR ANY STUDENT WITH A TUITION WAIVER CANNOT ENROLL IN A U+ SECTION. FOR INSTRUCTIONS ON HOW TO CONTACT THE INSTRUCTOR FOR ENROLLMENT, PLEASE SEE: https://infosec.cs.umass.edu/compsci596e.

	<u>PREREQUISITES</u>	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 602 RESEARCH METHODS-EMPIRICAL CS David Jensen		CMPSCI GRADUATE STUDENTS ONLY.	SEATS HELD FOR INCOMING GRADUATE REGISTRATION. UNDERGRADUATE CHC CS MAJORS WITH INSTRUCTOR, HPD, AND UPD PERMISSION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 603 ROBOTICS Hao Zhang		CMPSCI AND ECE GRADUATE STUDENTS ONLY.	A BACKGROUND IN LINEAR ALGEBRA, DIFFERENTIAL EQUATIONS, AND PROGRAMMING SKILLS ARE ASSUMED. INSTRUCTOR PERMISSION REQUIRED FOR UNDERGRADUATE CS MAJORS CLEARED BY THE UPD, IF AVAILABLE SEATS. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 611 ADVANCED ALGORITHMS Hung Le		CMPSCI GRADUATE STUDENTS ONLY.	MATHEMATICAL MATURITY WITH KNOWLEDGE OF ALGORITHMS AT THE LEVEL OF COMPSCI 311 EXPECTED OF INCOMING CS GRADUATE STUDENTS. INSTRUCTOR PERMISSION REQUIRED FOR UNDERGRADUATE CS MAJORS CLEARED BY THE UPD, IF AVAILABLE SEATS. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 613 ADV LOGIC IN COMPUTER SCIENCE Marius Minea		CMPSCI GRADUATE STUDENTS ONLY.	MEETS WITH COMPSCI 513. STUDENTS TAKING THIS COURSE SHOULD HAVE UNDERGRADUATE PREPARATION IN DISCRETE MATH AND ALGORITHMS. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 614 RANDMZD ALGRTHMS W/APPLC TO DS Andrew McGregor		CMPSCI GRADUATE STUDENTS ONLY.	STRONG BACKGROUND IN ALGORITHMS AND MATHEMATICS, PARTICULARLY IN LINEAR ALGEBRA AND PROBABILITY IS REQUIRED. NOT RECOMMENDED FOR UNDERGRADUATES AND MS STUDENTS UNLESS SUCCESSFUL COMPLETION OF EITHER COMPSCI 514 OR COMPSCI 611. IF UNSURE OF PREPARATION, CONTACT INSTRUCTOR. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 620 ADV S/WENG:SYNTHESIS Madeline Endres		CMPSCI GRADUATE STUDENTS ONLY.	PREREQUISITE OF COMPSCI 320 WITH A GRADE OF C OR BETTER REQUIRED FOR SENIORS, OR PERMISSION OF INSTRUCTOR. 7 SEATS HELD FOR INCOMING STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 625 ADVANCED METHODS IN HCI Narges Mahyar		LEC 01: GRADUATE CMPSCI STUDENTS ONLY. C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY.	PREVIOUSLY COMPSCI 690A. STUDENTS ARE EXPECTED TO HAVE TAKEN AN HCI COURSE PRIOR TO TAKING THIS COURSE. WHILE THERE ARE NO OTHER FORMAL PREREQUISITES, THE ABILITY TO DO SOFTWARE DEVELOPMENT WILL BE AN ASSET FOR THIS COURSE. ALTERNATE TOOLS THAT REQUIRE MINIMAL PROGRAMMING WILL, HOWEVER, BE POSSIBLE. FURTHER, THERE WILL BE SOME COVERAGE OF EXPERIMENTAL DESIGN AND ANALYSIS, WHICH RELIES ON SOME BASIC STATISTICAL KNOWLEDGE. COURSE IS FULLY ONLINE WITH SYNCHRONOUS REMOTE ATTENDANCE TTH at 10-11:15AM REQUIRED. C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 627 FIXING SOCIAL MEDIA Ethan Zuckerman		CMPSCI GRADUATE STUDENTS ONLY.	CROSS-LISTED WITH COMM 627 AND SPP 627.STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 645 DB DSGN & IMPLMNTN Marco Serafini		CMPSCI GRADUATE STUDENTS ONLY.	STUDENTS SHOULD HAVE TAKEN AN UNDERGRADUATE LEVEL COURSE ON OPERATING SYSTEMS (COMPSCI 377) OR DATABASES (COMPSCI 445). SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 651 OPTIMIZATION IN CS Madalina Fiterau Brostean		GRADUATE CMPSCI STUDENTS ONLY.	GRADUATE STUDENTS ENTERING THE COURSE ARE EXPECTED TO HAVE A STRONG WORKING KNOWLEDGE OF LINEAR ALGEBRA (MATH 545 EQUIVALENT) AND CALCULUS (EQUIVALENT TO A GRADE OF A IN MATH 233), AS WELL AS BASIC KNOWLEDGE OF PROBABILITY AND STATISTICS. SOLID PROGRAMMING SKILLS IN A HIGH-LEVEL LANGUAGE SUCH AS PYTHON, R OR MATLAB ARE EXPECTED. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 677 DISTRIBUTED AND OPERATING SYS Peter Klemperer		LEC 01: GRADUATE CMPSCI STUDENTS ONLY. C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY.	LECTURES ARE AVAILABLE SYCHRONOUSLY MW AT 2:30-3:45 PM. ASYNCHRONOUS LECTURE RECORDINGS ARE AVAILABLE TO ALL STUDENTS IMMEDIATELY AFTER EACH CLASS. ALL EXAMS WILL BE IN-PERSON FOR ALL STUDENTS WHO ARE NOT ENROLLED IN THE ONLINE MS-CMPSCI PROGRAM. INSTRUCTOR PERMISSION REQUIRED FOR SENIOR CS MAJORS CLEARED BY THE UPD, IF AVAILABLE SEATS. BACKGROUND IN UNDERGRAD OS (COMPSCI 377) IS HELPFUL. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. UO1 LEC 01: ONLINE, OPEN TO GRADUATE CMPSCI STUDENTS. C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 682 NEURAL NETWORKS:MODERN INTRO Subhransu Maji		LEC 01: CMPSCI GRADUATE STUDENTS ONLY.	SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. REQUIRED BACKGROUND FOR THE COURSE INCLUDES THE FOLLOWING. MULTIVARIATE CALCULUS, LINEAR ALGEBRA, AND PROBABILITY AND STATISTICS. PROGRAMMING IN PYTHON OR EQUIVALENT HIGH LEVEL LANGUAGE. UNDERGRADUATES AND STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 683 ARTIFICIAL INTELLIGENCE Yair Zick		LEC 01: GRADUATE CMPSCI STUDENTS ONLY. C1 LEC 01: ONLINE MS-CMPSCI GRADUATE STUDENTS ONLY.	STUDENTS WHO HAVE TAKEN AN UNDERGRADUATE AI COURSE PREFERRED. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. C1 LEC 01 FOR ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY. PHDS OR ANY STUDENT WITH A TUITION WAIVER CANNOT ENROLL IN A U+ SECTION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 688 PROBABILISTIC GRAPHICAL MODELS Benjamin Marlin		CMPSCI GRADUATE STUDENTS ONLY.	SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 690AB SYSTEMS FOR DEEP LEARNING Shiqing Ma		CMPSCI GRADUATE STUDENTS ONLY.	STUDENTS ARE REQUIRED TO BE FAMILIAR WITH BOTH PYTHON AND C/C++ PROGRAMMING, COMPUTER SYSTEMS, AND ALGORITHMS. SOME DEGREE OF PREVIOUS FAMILIARITY WITH MACHINE LEARNING IS LIKELY TO BE NECESSARY. GRADUATE STUDENTS FROM OTHER DEPARTMENTS WITH INSTRUCTOR APPROVAL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 690BB QUANTUM CRYPTOGRAPHY Filip Rozpedek		CMPSCI GRADUATE STUDENTS ONLY.	MEETS WITH COMPSCI 590AB. SEATS HELD FOR INCOMING GRADUATE STUDENT REGISTRATION. STUDENTS WHO TAKE THIS COURSE CANNOT SIMULTANEOUSLY, NOR LATER, ENROLL IN 590AB. SWAPPING BETWEEN 590AB AND 690BB IS ONLY CONSIDERED BEFORE THE END OF ADD/DROP. THIS COURSE REQUIRES PREVIOUS KNOWLEDGE OF THE BASICS OF QUANTUM INFORMATION. STUDENTS ENROLLING IN THIS COURSE NEED TO BE FAMILIAR WITH THE FOLLOWING CONCEPTS COVERED IN ANY OF: COMPSCI 412/490Q, COMPSCI 590QC, COMPSCI 648, COMPSCI 690QC, E&C-ENG 550, E&C-ENG 650, PHYSICS 537 AND CORRESPONDING MATHEMATICAL FORMALISM: 1) PURE STATES OF QUANTUM SYSTEMS AND QUBITS IN PARTICULAR 2) PROJECTIVE MEASUREMENTS IN A BASIS 3) UNITARY TRANSFORMATIONS 4) BLOCH SPHERE REPRESENTATION OF A QUBIT 5) BASICS OF THE DENSITY MATRIX FORMALISM. MATH, PHYSICS, AND EE GRADUATE STUDENTS SHOULD REQUEST AN OVERRIDE FOR CONSIDERATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 690G SECURTY FOR LARGE-SCALE SYSTMS Pubali Datta		GRADUATE CMPSCI STUDENTS ONLY.	SEATS SAVED FOR INCOMING GRADUATE STUDENT REGISTRATION. UNDERGRADUATE BACKGROUND IN COMPUTER SCIENCE IS ASSUMED TO INCLUDE OPERATING SYSTEMS (COMPSCI 377 OR EQUIVALENT). PROGRAMMING KNOWLEDGE AND PRINCIPLES OF COMPUTER SYSTEMS DESIGN KNOWLEDGE IS EXPECTED. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

	<u>PREREQUISITES</u>	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI 690QC QUANTUM COMMUNICATION Gayane Vardoyan		CMPSCI GRADUATE STUDENTS ONLY.	MEETS WITH COMPSCI 590QC. STUDENTS CAN ONLY RECEIVE CREDIT FOR EITHER 590QC OR 690QC, NOT BOTH. SWAPPING BETWEEN 590QC AND 690QC IS ONLY CONSIDERED BEFORE THE END OF ADD/DROP. SEATS HELD FOR INCOMING GRAD STUDENT REGISTRATION. FAMILIARITY WITH PROBABILITY THEORY, LINEAR ALGEBRA, AND COMPLEX NUMBERS. NO PRIOR FAMILIARITY WITH QUANTUM CONCEPTS NEEDED. PHYSICS STUDENTS SHOULD WAIT UNTIL OPEN TO SELF-ENROLL. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 690R CMPTNG-DIGI BIOMRKRS IN HLTHCR Sunghoon Lee		CMPSCI GRADUATE STUDENTS ONLY.	THERE ARE NO FORMAL PREREQUISITES FOR GRADUATE STUDENTS, BUT INFORMALLY, STUDENTS SHOULD BE FAMILIAR WITH STATISTICS AND MACHINE LEARNING. KNOWLEDGE OF HEALTH DATA OR MEDICINE IS NOT A PREREQUISITE; THIS COURSE IS DESIGNED TO INTRODUCE THE CONCEPTS OF HEALTH AND MEDICAL DATA. SEATS SAVED FOR INCOMING GRADUATE STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 690S AI ALIGNMENT Scott Niekum		CMPSCI GRADUATE STUDENTS ONLY.	NO FORMAL PREREQUISITES, BUT IT IS STRONGLY RECOMMENDED TO HAVE STRONG PROGRAMMING SKILLS, LINEAR ALGEBRA, PROBABILITY AND STATISTICS, MULTIVARIATE CALCULUS, AND GRADUATE-LEVEL MACHINE LEARNING. SEATS SAVED FOR INCOMING GRADUATE STUDENT REGISTRATION. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI 690U COMPUTNL BIOL AND BIOINFORMTCS Anna Green		GRADUATE CMPSCI STUDENTS ONLY.	PROFICIENCY IN PYTHON PROGRAMMING AS WELL AS UNDERGRADUATE-LEVEL UNDERSTANDING OF STATISTICS, MACHINE LEARNING, AND LINEAR ALGEBRA IS ASSUMED. THE COURSE ASSUMES NO PRIOR KNOWLEDGE OF BIOLOGY. MAY ALSO BE SUITABLE FOR GRADUATE STUDENTS IN BIOLOGY-RELATED DISCIPLINES WHO HAVE STRONG COMPUTATIONAL SKILLS. INTERESTED GRADUATE STUDENTS IN OTHER DISCIPLINES, ESPECIALLY BIOLOGY, SHOULD DESCRIBE THEIR BACKGROUND TO HANDLE COMPUTATIONAL REQUIREMENTS ON THE OVERRIDE FORM FOR INSTRUCTOR REVIEW. SEATS HELD FOR INCOMING GRADUATE STUDENT REGISTRATION. STUDENTS NEEDING INSTRUCTOR PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 6910 S-TOOLS-EXPLANATORY/TUTRNG SYS Beverly Woolf		GRADUATE STUDENTS ONLY.	STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
COMPSCI 692CT S-CATEGORY THEORY FOR AGI Sridhar Mahadevan		C1 LEC 01: ONLINE MS-CMPSCI PROGRAM STUDENTS ONLY. LEC 01: CMPSCI GRADUATE STUDENTS ONLY.	U+ SEC FOR ONLINE MS STUDENTS ONLY. UNIV SECTION FOR COMPSCI GRADUATE STUDENTS ONLY. LECTURES AVAILABLE BOTH SYNCHRONOUSLY (MW AT 5:30 PM EDT) AND ASYNCHRONOUSLY. LECTURE RECORDINGS ARE AVAILABLE TO ALL STUDENTS IMMEDIATELY AFTER EACH CLASS. STUDENTS ARE REQUIRED TO PRESENT SYNCHRONOUSLY AND WILL BE NOTIFIED OF THOSE DATES AT THE BEGINNING OF THE COURSE. THIS COURSE WILL EMPHASIZE THEORETICAL ABSTRACTIONS FROM PURE MATHEMATICS THAT WILL PLAY AN INCREASINGLY IMPORTANT ROLE IN THE DESIGN OF AI SYSTEMS IN THE COMING DECADES (INCLUDING QUANTUM AI SYSTEMS). IT IS NOT INTENDED TO TEACH GRAD STUDENTS HOW TO PROGRAM LLMS WITH CLEVER PROMPT ENGINEERING, OR BUILD AGENTIC SYSTEMS ON TOP OF LLMS. THE COURSE WILL INCLUDE BOTH THEORY AS WELL AS APPLICATIONS TO A WIDE RANGE OF AI CAPABILITIES. STUDENTS WILL BE GIVEN A DRAFT COPY OF THE INSTRUCTOR'S BOOK ON CATEGORY THEORY FOR AGI (SPRINGER) AS WELL AS AN ONLINE TEXTBOOK ON CATEGORY (BY EMILY RIEHL). NO BACKGROUND IN CATEGORY THEORY IS NECESSARY TO TAKE THE COURSE. STUDENTS MUST BE FAMILIAR WITH MATHEMATICAL CONCEPTS AT THE LEVEL OF A GRAD COURSE IN ML OR AI (E.G.,
COMPSCI 692EF S-EMBEDDED MODELS FOR IOT Deepak Ganesan, Phuc Nguyen		CMPSCI GRADUATE STUDENTS ONLY.	SECT 01=3 CREDITS; SECT 02=1 CREDIT. EXAMPLE TOPICS WE WILL COVER INCLUDE: APPLICATION DOMAINS IN HEALTH AND WEARABLES, SYSTEMS OPTIMIZATIONS AND ARCHITECTURE, IOT APPLICATIONS AND ENVIRONMENTS. THE COURSE WILL PRIMARILY CONSIST OF PAPER READINGS, PRESENTATIONS, AND DISCUSSIONS. STUDENTS WILL CRITICALLY EXAMINE RECENT ADVANCES IN THE FIELD THROUGH BOTH ACADEMIC PAPERS AND INDUSTRY DEVELOPMENTS. FOR 3-CREDIT OPTION, A SEMESTER-LONG RESEARCH PROJECT IS REQUIRED, INVOLVING EITHER THE DEVELOPMENT OF A NOVEL APPLICATION USING FOUNDATION MODELS ON WEARABLE PLATFORMS OR THE IMPLEMENTATION OF OPTIMIZATION TECHNIQUES FOR EMBEDDED DEPLOYMENT. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
	CMPSCI GRADUATE STUDENTS ONLY.	SECTION 01=3 CREDITS; SECTION 02=1 CREDIT. A PROJECT IS REQUIRED FOR STUDENTS TAKING FOR 3 CREDITS. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
	PHD CMPSCI GRADUATE STUDENTS ONLY.	INSTRUCTOR CONSENT REQUIRED. MAY BE REPEATED FOR CREDIT UP TO 3 TIMES. OPEN ONLY TO PHD STUDENTS WORKING WITH NLP FACULTY. INTERESTED LINGUISTICS PHD STUDENTS WITH PERMISSION OF INSTRUCTOR. SYNCHRONOUS MEETINGS ARE REQUIRED. CONTACT INSTRUCTOR FOR CONSIDERATION AT brenocon@cs.umass.edu.
	MS-CMPSCI GRADUATE STUDENTS ONLY.	PREVIOUSLY COMPSCI 696DS. BY THE END OF THE CURRENT FALL SEMESTER, STUDENTS MUST HAVE COMPLETED AT LEAST TWO OF THE DATA SCIENCE CORE REQUIREMENTS AND HAVE AN OVERALL GPA OF 3.0 OR HIGHER. PERMISSION OF INSTRUCTOR IS REQUIRED. MS-CMPSCI STUDENTS ARE EMAILED INSTRUCTIONS ON HOW TO APPLY FOR CONSIDERATION.
	DOCTORAL, MASTERS GRADUATE CMPSCI STUDENTS ONLY.	THE 3 CREDIT OPTION IS FOR THE SECOND SEMESTER OF A TWO-SEMESTER SEQUENCE, 701Y FOLLOWED BY 701. THE 6 CREDIT OPTION IS FOR A PROJECT THAT WILL BE COMPLETED OVER TWO SEMESTERS WITH ENROLLMENT IN ONLY ONE SEMESTER. REQUEST OVERRIDE VIA THE SPECIAL ON-LINE FORM: https://www.cics.umass.edu/content/registration
	DOCTORAL, MASTERS CMPSCI GRADUATE STUDENTS ONLY.	INDICATES THE FIRST SEMESTER OF A TWO-SEMESTER SEQUENCE, 701Y (3 CREDITS) FOLLOWED BY 701 (3 CREDITS), WITH GRADE FOR BOTH ASSIGNED AT THE END. REQUEST OVERRIDE VIA THE SPECIAL ON-LINE FORM: https://www.cics.umass.edu/content/registration
	CMPSCI GRADUATE STUDENTS ONLY.	SECT 01=3 CR; SECT 02=1 CR. THE OPTION FOR 3 CREDITS INCLUDES A PROJECT WITH PERMISSION OF INSTRUCTOR. PARTICIPANTS WILL BE EXPECTED TO READ UP TO TWO PAPERS PER WEEK. ONE OR MORE ATTENDESS WILL BE RESPONSIBLE FOR PRESENTING A 10-15 MINUTE SUMMARY OF EACH PAPER AND HELP LEAD DISCUSSION OF THE PAPERS. WHEN POSSIBLE, RESEARCHERS WILL BE ASKED TO RELATE THEIR WORK TO THE PAPERS. IT IS SUGGESTED THAT STUDENTS SHOULD HAVE COMPLETED COMPSCI 646, THE INFORMATION RETRIEVAL COURSE, OR ITS EQUIVALENT. CONTACT HAMED ZAMANI (zamani@cs. umass.edu) IF YOU ARE UNCERTAIN WHETHER YOU HAVE THE NECESSARY BACKGROUND.
		COURSE IS ASSOCIATED WITH CICS TA EMPLOYMENT. REQUIRED COMPONENT OF TA CONTRACT. REGISTRATION WILL BE PROCESSED BY THE ASSOCIATE DIRECTOR GRADUATE PROGRAMS AFTER SIGNED AND APPROVED CONTRACT. OPEN TO CICS TEACHING ASSISTANTS ONLY.
	DOCTORAL, MASTERS GRADUATE STUDENTS ONLY.	MAY BE REPEATED FOR CREDIT UP TO 6 TIMES. UNDERGRADUATES AND OTHER STUDENTS NOT MEETING ELIGIBILITY MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
		COURSE OPEN ONLY TO CS GRADUATE STUDENTS WHO HAVE ACHIEVED CANDIDACY. REQUEST ENROLLMENT VIA THE SPECIAL ON-LINE FORM: https://www.cics.umass.edu/academics/academic-policies/graduate-programs-policies/graduate-student-forms
	PREREQUISITES	CMPSCI GRADUATE STUDENTS ONLY. PHD CMPSCI GRADUATE STUDENTS ONLY. MS-CMPSCI GRADUATE STUDENTS ONLY. DOCTORAL, MASTERS GRADUATE CMPSCI STUDENTS ONLY. DOCTORAL, MASTERS CMPSCI GRADUATE STUDENTS ONLY. CMPSCI GRADUATE STUDENTS ONLY.

	PREREQUISITES	ELIGIBILITY RESTRICTIONS	CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT.
COMPSCI H230 HNRS COLLOQ: COMPUTR SYS PRINC Meng-Chieh Chiu	CICS 210 (OR COMPSCI 187) WITH A GRADE OF C OR BETTER AND COMPSCI 198C [OR COMPSCI 230 WITH A GRADE OF B OR BETTER].	COMMONWEALTH HONORS COLLEGE SOPHOMORE AND JUNIOR CS MAJORS ONLY.	DEPARTMENT CONSENT REQUIRED. NO OPTION FOR PASS/FAIL. STUDENTS MUST BE ENROLLED IN OR HAVE COMPLETED COMPSCI 230 WITH A GRADE OF B OR BETTER. REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI H311 HNRS COLLOQ: INTRO ALGORITHMS Ghazaleh Parvini	CICS 210 (OR COMPSCI 187) AND COMPSCI 250 (OR MATH 455) WITH A GRADE OF C OR BETTER [OR COMPSCI 311 WITH A GRADE OF B OR BETTER].	COMMONWEALTH HONORS COLLEGE JUNIOR AND SENIOR CS MAJORS ONLY.	DEPARTMENT CONSENT REQUIRED. NO OPTION FOR PASS/FAIL. STUDENTS MUST BE ENROLLED IN COMPSCI 311 (OR HAVE COMPLETED COMPSCI 311 WITH A GRADE OF B OR BETTER). MEETING SHALL BE MONDAYS AT TO BE DETERMINED TIME BY INSTRUCTOR AT START OF SEMESTER. INTERESTED STUDENTS MUST REQUEST OVERRIDE VIA ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
COMPSCI H466 HNRS COLLOQ: APPL CRYPTOGRAPHY Adam O'Neill	COMPSCI 311 WITH A GRADE OF C OR BETTER [OR COMPSCI 466 WITH A GRADE OF B OR BETTER].	COMMONWEALTH HONORS COLLEGE JUNIOR AND SENIOR CS MAJORS ONLY.	NO OPTION FOR PASS/FAIL. STUDENTS MUST BE ENROLLED IN COMPSCI 466 (OR HAVE COMPLETED COMPSCI 466 WITH A GRADE OF B OR BETTER). STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/overrides.
COMPSCI H589 HNRS COLLOQ: MACHINE LEARNING Bruno Castro da Silva	[MATH 545 AND STATISTCS 315 (PREVIOUSLY STATISTCS 515) AND COMPSCI 240, ALL WITH A GRADE OF C OR BETTER.] OR [MATH 545 WITH A GRADE OF C OR BETTER AND COMPSCI 240 WITH A GRADE OF B+ OR BETTER.] OR [MATH 235 AND MATH 233, BOTH WITH A GRADE OF B+ OR BETTER, AND STATISTICS 315 (PREVIOUSLY STATISTCS 515) AND COMPSCI 240, BOTH WITH A GRADE OF C OR BETTER.] OR [MATH 235 AND MATH 233 AND COMPSCI 240, ALL WITH A GRADE OF B+ OR BETTER.] OR [COMPSCI 589 WITH A GRADE OF B OR BETTER.]	COMMONWEALTH HONORS COLLEGE JUNIOR AND SENIOR CS MAJORS ONLY.	NO OPTION FOR PASS/FAIL. DEPARTMENT CONSENT REQUIRED. STUDENTS MUST BE ENROLLED IN COMPSCI 589 (OR HAVE COMPLETED COMPSCI 589 WITH A GRADE OF B OR BETTER). REQUEST OVERRIDE VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
INFO 101 INTRO TO INFORMATICS Michelle Trim	BETTER. I	UNDERGRADUATE NON-CS MAJORS ONLY.	CS MAJORS ARE NOT ELIGIBLE FOR THIS COURSE. FOUNDATIONS COURSE FOR THE INFORMATICS MAJOR. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides.
INFO 150 MATH FOUND-INFORMATICS Peter Haas		UNDERGRADUATE NON-CS AND NON-MATH (STATS) MAJORS ONLY.	CS AND MATH (STATISTICS) MAJORS ARE NOT ELIGIBLE FOR THIS COURSE. AFTER INFORM MAJORS REGISTER, INFO 150 WILL OPEN TO ALL NON-CS AND NON-MATH/STATS UNDERGRADUATES WHO SHOULD WAIT FOR THE MAJOR ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL OR ADD TO THE WAITLIST (IF AVAILABLE) AND SHOULD NOT REQUEST AN OVERRIDE. ANTICIPATED OPENING DURING THE FIRST WEEK OF CLASSES. R1 MATH USEFUL; NOT ABSOLUTELY REQUIRED. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides
INFO 203 A NETWORKED WORLD Mohammadhassan Hajiesmaili		ALL NON-CS UNDERGRADUATES.	CS MAJORS ARE NOT ELIGIBLE FOR THIS COURSE. AFTER INFORM MAJORS REGISTER, INFO 203 WILL OPEN TO ALL NON-CS UNDERGRADUATES WHO SHOULD WAIT FOR THE MAJOR ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL OR ADD TO THE WAITLIST (IF AVAILABLE) AND SHOULD NOT REQUEST AN OVERRIDE. ANTICIPATED OPENING DURING THE FIRST WEEK OF CLASSES. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

PREREQUISITES CLASS NOTES/COMMENTS INFORMATION ONLY - DOES NOT AFFECT SPIRE ENROLLMENT. **ELIGIBILITY RESTRICTIONS**

INFO 248

INTRO TO DATA SCIENCE

348

Gordon Anderson

INFO

Matthew Rattigan

CICS 110 (OR CICS 160 OR COMPSCI 119 OR COMPSCI 121) WITH A GRADE OF C OR BETTER, AND EITHER PSYCH 240, OIM 240, STATISTC 240, RES-ECON 212, SOCIOL 212, OR STATISTC 315/515, OR COMPSCI 240, WITH A GRADE OF C OR BETTER.

UNDERGRADUATES.

186 OR COMPSCI 187), BOTH WITH A GRADE OF C OR DATA ANALYTICS WITH PYTHON BETTER.

INFO 248 AND CICS 160 (OR INFO 190T OR COMPSCI INFORM MAJORS ONLY.

PREVIOUS EXPERIENCE WITH A PROGRAMMING LANGUAGE (OTHER THAN COMPSCI 121) MAY BE CONSIDERED FOR OVERRIDE. BASIC MATHEMATICAL MATURITY (COLLEGE ALGEBRA) IS ASSUMED. BASIC PROBABILITY AND STATISTICS, SUCH AS ONE OF THE COURSES REQUIRED FOR REGISTRATION ON SPIRE IS REQUIRED. THIS COURSE CONSISTS OF TWO LECTURES AND ONE LAB SECTION PER WEEK. EACH LECTURE MEETING INCLUDES A PRESENTATION OF CONCEPTUAL MATERIAL AS WELL AS SOME TIME TO WORK ON IMPLEMENTATION OF THE MATERIAL PRESENTED. IN LAB TIME, STUDENTS RECEIVE DETAILED INSTRUCTION ON THE USE OF SOFTWARE TOOLS TO ANALYZE ACTUAL DATA SETS. READINGS WILL BE ASSIGNED AS PREPARATION FOR EACH CLASS MEETING. A PROJECT WILL BE ASSIGNED DURING THE COURSE. STUDENTS WORK IN PAIRS ON THE PROJECT. THE PROJECT PROVIDES STUDENTS WITH AN OPPORTUNITY TO WORK COLLABORATIVELY TO EXPLORE A TOPIC IN MORE DEPTH. AFTER ELIGIBLE INFORM MAJORS REGISTER, WILL OPEN TO ALL ELIGIBLE UNDERGRADUATES, IF AVAILABLE SEATS, ANTICIPATED OPENING DURING THE FIRST WEEK OF CLASSES. STUDENTS NEEDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass.edu/academics/course-overrides

PREVIOUSLY CICS 397A. LINEAR ALGEBRA (MATH 235) IS HELPFUL BUT NOT REQUIRED. STUDENTS WITH ALTERNATE PROGRAMMING OR STATISTICS BACKGROUND MAY REQUEST OVERRIDE FOR CONSIDERATION. A PREREQUISITE CHANGE HAS BEEN APPROVED BY THE FACULTY SENATE TO REPLACE CICS 210 WITH CICS 160. AFTER INFORM MAJORS REGISTER, INFO 348 WILL OPEN TO ALL UNDERGRADUATES, IF AVAILABLE SEATS. STUDENTS MEETING PREREQUISITE SHOULD WAIT FOR THE MAJOR ELIGIBILITY RESTRICTION TO BE REMOVED TO SELF-ENROLL OR ADD TO THE WAITLIST (IF AVAILABLE) AND SHOULD NOT REQUEST AN OVERRIDE. STUDENTS NEÈDING SPECIAL PERMISSION MUST REQUEST OVERRIDES VIA THE ON-LINE FORM: https://www.cics.umass. edu/academics/course-overrides