

# COT: Computing Theory Courses

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## Courses

### COT 3100 Discrete Structures

College of Sci and Engineering, Department of Computer Science

3 sh (may not be repeated for credit)

Prerequisite: (COP 2253 OR COP 2334 OR COP 3014) AND (MAC 2233 OR MAC 2311)

Foundations of Discrete Math with applications to modeling, programming and data structures. Propositional and predicate logic, number systems and number theory, sequences, summations, graph and tree structures. Prerequisites: (COP 2253 or COP 2334 or COP 3014) and (MAC 2233 or MAC 2311) minimum grade of C-.

### COT 4420 Theory of Computation

College of Sci and Engineering, Department of Computer Science

3 sh (may not be repeated for credit)

Prerequisite: COT 3100

Theoretical foundations of computer science. Classification of formal languages, grammars, and automata. Parsing and recognition of syntactic expressions. Turing Machines and random access machines. Church-Turing thesis. Insolubility of the halting problem.

### COT 4905 Directed Study

College of Sci and Engineering, Department of Computer Science

1-12 sh (may be repeated indefinitely for credit)

### COT 5205 Theory of Computation

College of Sci and Engineering, Department of Computer Science

3 sh (may not be repeated for credit)

Theoretical foundations of computer science. Classification of formal languages, grammars and automata. Parsing and recognition of syntactic expressions. Turing Machines and random access machines. Church-Turing thesis. Insolubility of the halting problem. Dual-listed with COT 4420; graduate students will be assigned additional work. Students cannot receive credit for COT 5205 and COT 4420.

### COT 5905 Directed Study

College of Sci and Engineering, Department of Computer Science

1-12 sh (may be repeated indefinitely for credit)

### COT 5930 Computer Science Seminar

College of Sci and Engineering, Department of Computer Science

3 sh (may be repeated for up to 6 sh of credit)

A seminar-style course that provides graduate students with an overview of trends in Computer Science research and development, as well as prepares students for conducting independent research. Specific topics include trends in CS research, software development, and research methods. Permission is required.

### COT 6428 Seminar in Cybersecurity

College of Sci and Engineering, Department of Computer Science

3 sh (may not be repeated for credit)

Prerequisite: CIS 6394 AND CIS 6800 AND CNT 5402 AND COP 5725; Completion of 18 hours of college course work is required prior to taking this course.

This graduate research seminar will provide cybersecurity graduate students with the opportunity to identify, research, report and discuss contemporary issues in cybersecurity. Students are expected to have completed the foundational courses in the curriculum and to work independently on a relevant topic approved by the instructor.

### COT 6905 Directed Study

College of Sci and Engineering, Department of Computer Science

1-12 sh (may be repeated indefinitely for credit)

### COT 6931 Computer Science Project

College of Sci and Engineering, Department of Computer Science

3 sh (may be repeated for up to 6 sh of credit)

Prerequisite: Completion of 15 hours of college course work is required prior to taking this course.

Capstone course for Masters students who do not elect the thesis option. Normally taken for 3 credits in each of two consecutive semesters. Students will define and carry out a project that shows mastery of some topic in computing and produces some concrete product such as a report or a computer program. Students should not enroll until they have completed at least 15 semester hours of their graduate coursework. Permission is required.