Minor in Computer and Information Science

Computer and Information Science Minor

Students who plan to major in another area but have a strong interest in computing may want to consider this minor as an option.

This minor consists of a minimum of 13 credit hours from the following three categories; Programming Fundamentals, CIS Core and Technical Electives. Three different tracks A, B, and C, are available for the fundamentals portion; each track consists of a 3 credit hour prerequisite course (which, being at the 1000-level, is not counted in the total hours for the minor), followed by a 3-4 credit hour course. The core consists of a 3 credit hour course followed by a one credit hour course (on professionalism and ethics in computing). The electives portion requires the students to take a minimum of 6 hours from a specified list of courses.

No permissions or approval are required from the Department of Computer Science & Engineering to pursue the CIS Minor. In order to graduate with a CIS Minor, you must fulfill the guidelines listed in the curriculum requirements provided below. Upon completing the guidelines, a student need only list the CIS on their department graduation application. Students may request to have the CIS added to their degree audit at any time to track their progress in the minor.

Guidelines

- CIS minors DO NOT get permanent computer accounts on the CSE machines and DO NOT receive priority scheduling in CSE courses. (Any students who wish to pursue a track similar to the CIS minor within ISE should consider the Data Analytics track as priority seating is GAURANTEED if granted permission into that highly competitive track. For more information regarding this, email the majors advisor, Kristen Arra at arra.7@osu.edu).
**Requirement 1.** Complete ONE of the following tracks:

**Track A:**
CSE 1211 (Computational Thinking in Context: Images, Animation and Games) (3hrs) followed by CSE 2221 (Software: Software Components) (4hrs) (prereqs CSE 1211 or 1212 or 1221 or 1222 or 1223 or ENGR 1281.01 and ENGR 1281.02(H) concurrent with MATH 1151 or 1161.01 or 1161.02)

**Track B:**
CSE 1222 (Programming in C++) (3hrs) (prereqs MATH 1151 or 1161, not open to students with credit in ENGR 1281.01 or 1282.02 followed by CSE 2122 (Data Structures Using C++) (3hrs) (prereq CSE 1222)

**Track C:**
CSE 1223 (Programming in Java) (3hrs) followed by CSE 2123 (Data Structures Using Java) (3hrs) (prereq CSE 1223)

**Requirement 2.** Complete the following core CIS courses:

- CSE 2321 (Foundations I) (3hrs) (prereqs CSE 1232, 1233, 2221, and MATH 1151. Concurrently (for students with credit for 2221): CSE 2231)  
  - Propositional and first-order logic; basic proof techniques; graphs, trees; analysis of algorithms; asymptotic analysis; recurrence relations
- CSE 2501 (Social, Ethical and Professional Issues in Computing) (1hr) (prereqs CSE 1222, 1223, 2231 and 2321 and Gen Ed Writing Level 2)  
  - Social, ethical and professional issues facing computing professionals; ethical principles; discussion of case studies

**Requirement 3.** Choose a minimum of 6 credit hours from the following technical electives:

- CSE 2231 (Software II: Software Development and Design) (4hrs) (prereq CSE 2221)
- CSE 2331 (Foundations II: Data Structures and algorithms) (3hrs) (prereqs CSE 2231 and 2321 and STATS 3470)
- CSE 2421 (Systems I: Introduction to Low-Level Programming and Computer Organization) (4hrs) (prereqs CSE 1232, 1233, 2231 and 2321)
- CSE 3241 (Introduction to Database Systems) (3hrs) (prereqs CSE 2133 or 2231 or 2233 and 2321 or Math 2366)