COMPUTER SCIENCE SECOND MAJOR FOR ISP STUDENTS

The Integrated Science Program is a highly selective program in Weinberg College. Weinberg College students, but not McCormick students, majoring in ISP may complete a limited, second major in computer science through a curriculum tailored specifically to their needs:

**Course**  
**Title**  
Core courses (same as for stand-alone major)  
COMP_SCI 101-0  
Computer Science: Concepts, Philosophy, and Connections  
Or an additional course from the breadth course lists.  
COMP_SCI 111-0  
Fundamentals of Computer Programming  
COMP_SCI 211-0  
Fundamentals of Computer Programming II  
COMP_SCI 212-0  
Mathematical Foundations of Comp Science  
COMP_SCI 213-0  
Introduction to Computer Systems  
COMP_SCI 214-0  
Data Structures & Algorithms  
Breadth courses (same as for stand-alone major: 5 courses, one from each area, see below)  
COMP_SCI 399-0  
Projects  
or INTG_SCI 398-0  
Undergraduate Research  
**Breadth Courses**  
Majors must take one course from each area. Minors must take one course from each of any three areas.  
Theory  
**Course**  
**Title**  
COMP_SCI 335-0  
Introduction to the Theory of Computation  
COMP_SCI 336-0  
Design & Analysis of Algorithms  
Systems  
**Course**  
**Title**  
COMP_SCI 322-0  
Compiler Construction  
COMP_SCI 339-0  
Introduction to Database Systems  
COMP_SCI 340-0  
Introduction to Networking  
COMP_SCI 343-0  
Operating Systems  
COMP_SCI 345-0  
Distributed Systems  
COMP_SCI 350-0  
Introduction to Computer Security  
COMP_SCI 354-0  
Network Penetration & Security  
COMP_SCI 440-0  
Advanced Networking  
COMP_SCI 441-0  
Resource Virtualization  
COMP_SCI 443-0  
Advanced Operating Systems  
COMP_SCI 446-0  
Kernel and Other Low-level Software Development  
COMP_SCI 450-0  
Internet Security  
COMP_ENG 303-0  
Advanced Digital Design  
COMP_ENG 346-0  
Microprocessor System Design  
COMP_ENG 358-0  
Introduction to Parallel Computing  
COMP_ENG 361-0  
Computer Architecture I  
Artificial Intelligence  
**Course**  
**Title**  
COMP_SCI 325-1  
Artificial Intelligence Programming  
COMP_SCI 337-0  
Natural Language Processing  
COMP_SCI 344-0  
Design of Computer Problem Solvers  

**Interfaces**  
**Course**  
**Title**  
COMP_SCI 313-0  
Tangible Interaction Design and Learning  
COMP_SCI 315-0  
Design, Technology, and Research  
COMP_SCI 330-0  
Human Computer Interaction  
COMP_SCI 331-0  
Introduction to Computational Photography  
COMP_SCI 351-1  
Introduction to Computer Graphics  
COMP_SCI 352-0  
Machine Perception of Music & Audio  
COMP_SCI 370-0  
Computer Game Design  
COMP_SCI 376-0  
Computer Game Design and Development  
COMP_SCI 377-0  
Game Design Studio  
ELEC_ENG 332-0  
Introduction to Computer Vision  

**Software Development and Programming Languages**  
**Course**  
**Title**  
COMP_SCI 321-0  
Programming Languages  
COMP_SCI 338-0  
Practicum in Intelligent Information Systems  
COMP_SCI 377-0  
Game Design Studio  
COMP_SCI 393-0  
Software Construction  
COMP_SCI 394-0  
Agile Software Development  
COMP_SCI 473-1  
NUvention: Web - Part 1  
COMP_SCI 473-2  
NUvention: Web - Part 2