COMPUTER AND INFORMATION TECHNOLOGY, B.S.

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Just what is a major in Computer and Information Technology? A major in Computer and Information Technology provides a solid grounding in the information technology field. CIT is a cutting-edge program rooted and grounded in courses that are both highly theoretical while also extremely applied in nature. Students are constantly exposed to the latest technology and trends in class, making them immediately employable upon graduation. A major in Computer and Information Technology provides graduates with the necessary tools and skills to succeed in today's global, technology-driven world. Majors must choose to specialize in an area of emphasis which allows them to enrich their studies in a focused discipline. These areas of emphasis include:

- Computer and Web Application Development
- Game/Simulation Development

CIT graduates' skills are highly marketable and graduates are prepared for careers in any of today's industries that use Information Technology. The integrated nature of the educational experience enables graduates to combine their IT skills with the intellectual flexibility needed to be critical thinkers and problem solvers. They are also effective communicators able to interact with clients, coworkers and managers. CIT faculty work to help students develop real-life employable skills through hands-on experience while providing students access to emerging technologies.

Even so, CIT is not Computer Science. While CIT has strong roots in CS and the study of computers in general, there are important distinctions between the two disciplines, from professional and curricular perspectives.

Professional Aspect

Computer science students typically are motivated by the computer itself and how it works through an engineering perspective. In other words, computer scientists are interested in how the computer works under the hood. Information technologists, on the other hand, are intrigued by using the computer to solve problems. Information technologists identify needs for technology, which the computer scientists and engineers create. Information Technologists would then help people to use the CS professionals' creations effectively. CIT does not focus on a single domain, but instead focuses on the selection, integration and deployment of computers and technology throughout society in the areas of computer application development, web/mobile application development, and game/simulation development. CS focuses on producing graduate/PhD students or software engineers.

Curricular Aspect

Computer science curricula have a stronger emphasis on programming and hardware than in the Computer and Information Technology curriculum. CIT students obviously need to be able to build software applications and systems, but the typical CIT project will involve building software from existing components with high-level languages such as C++ or C# and applying an accessible interface, rather than engineering large applications from scratch, focusing on software engineering principles, data structures and algorithm development issues.

Another significant difference in the disciplines is that a computer science curriculum is seen as being deeper in the sense that intermediate and advanced courses require more prerequisites. CIT courses typically have a flatter prerequisite structure, which allows non-technical majors to take CIT courses to add to their learning, tool set, and even lead to a minor.

Admission Requirements

- A composite score on the ACT of at least 21 or the SAT equivalent.
- A mathematics score on the ACT of at least 21 or the SAT equivalent.

See Semester Plan for the Area of Emphasis in which you are interested.

Areas of Emphasis

- Computer and Web Application Development, Emphasis (http://catalog.marshall.edu/undergraduate/programs-az/engineering-computer-sciences/computer-science/computer-information-technology-bs/computer-web-application-development-emphasis/)
- Game Simulation Development, Emphasis (http://catalog.marshall.edu/undergraduate/programs-az/engineering-computer-sciences/computer-science/computer-information-technology-bs/game-simulation-development-emphasis/)