Info & Communications Technol (ICT)

Courses

ICT 3000 Fundamentals of Information Systems (4 Credits)
This course provides an introduction to systems and development concepts, information technology, and application software. It includes explanations of how information is used in organizations and how IT enables improvement in quality, timeliness, and competitive advantage. Students learn the differences between personal productivity software and organizational information systems centered on databases and shared content. Coverage includes quality, systems theory, decision-making, and the organizational role of information systems. Organizational uses of information technology including computing and telecommunications systems are stressed. Concepts of organizations, information systems growth, and process improvement are introduced. No prerequisite. Please note that 3000-level courses at University College cannot be used to satisfy graduate-level certificate or degree requirements.

ICT 3100 Systems Analysis and Design (4 Credits)
This course examines the system development and change process, the software life cycle, including adherence to a methodological life cycle, and project management for software projects. Topics include software development paradigms, system engineering, use of modeling tools, function-based analysis and design, object-oriented analysis and design, testing, and documenting software systems. The course emphasizes the factors essential for effective communication and integration between users and systems. It encourages interpersonal skill development with clients, users, and others associated with development, operation, and maintenance of the system. Software quality issues are also considered: software testing, configuration management, quality management, process improvement and software maintenance. Students conduct a hands-on use case exercise and write a Software Development Plan. Please note that 3000-level courses at University College cannot be used to satisfy graduate-level certificate or degree requirements.

ICT 3300 Programming and Data Structures (4 Credits)
This course provides a first exposure to algorithms and fundamental data structures. Working "hands-on" with an integrated development environment, students learn to write and modify code in a widely used contemporary programming language, and discover how their acquired programming skills contribute to the plans, designs, implementations, tests, and maintenance of software solutions. Emphasis is placed on language syntax and structure, data types, arrays, Boolean logic, and functions. The course progresses to topics such as indirection, list and tree structures, object-oriented programming, application programming interfaces, and simple user interfaces.

ICT 3400 Database Fundamentals (4 Credits)
This course introduces databases and database system concepts. The material covers information systems design and implementation within a database management system environment. Incorporating both lecture content and lab exercises, this course gives students a solid comprehension of the benefits and limitations of databases, while allowing them to get hands-on experience building a user interface to an existing database. All application development is done in a graphical environment, using a popular desktop database workbench. Selected file processing issues are also introduced. Please note that 3000-level courses at University College cannot be used to satisfy graduate-level certificate or degree requirements.

ICT 3500 Web Fundamentals (4 Credits)
This course explores the fundamental development techniques of web page design using Hypertext Markup Language (HTML). Students learn how to create fully functional web pages by utilizing web fundamentals and best practices, including: how to effectively create layouts, use graphics, create hyperlinks, and use text formatting features of HTML. In addition, students are introduced to the use of cascading style sheets (CSS) to enhance the look of web pages. To better prepare students for evolving web standards, the course introduces students to the new HTML5 specifications and CSS3 features.

ICT 3800 Network and Internet Fundamentals (4 Credits)
This course covers networking and Internet technologies, hardware, software, and network communications protocols. Students gain knowledge of networking and telecommunications fundamentals including Local and Wide Area Networks, wireless communications, and the Internet. The core of the TCP/IP protocol suite is explored. Voice and data communication concepts, models, standards, and protocols are studied. Students learn about the ramifications of network characteristics such as throughput, latency and jitter on applications and the user experience. Students are introduced to the process of evaluation, selection, and implementation of different communication options within an organization.