

## **BACHELOR OF INFORMATION TECHNOLOGY**

### Selected course descriptions

#### **ISYS2102 - Software Engineering 2**

This course builds on the fundamental Analysis & Design and UML skills learned in ISYS2089, and the more advanced software engineering processes and tools learned in COSC2101. Students learn how to design high-quality, large-scale software applications using software design patterns and sound software design principles. Throughout the course, students gain practical experience by reviewing and critiquing fellow students' work, using IBM's RUP as well as Agile and Scrum software development methodologies.

#### **COSC2440 - Software Architecture: Design & Implementation**

This course builds on the fundamental Object-Oriented Programming skills gained through the COSC2081 and COSC2082 courses. The course introduces common client server architectures such as sockets, RMI and Servlets, as well as their impact on e-Commerce applications. Advanced Java programming concepts such as templates, multithreaded programming and the JCF are reviewed. Students develop small applications such as multiplayer games, chat systems, and e-Commerce applications.

#### **Application Programming:**

##### **COSC2450 - Web Development Technologies**

This course introduces students to the principles and practice of developing applications using the Common Language Infrastructure (CLI) and the C# programming language. Topics include cutting edge technologies such as ASP.NET 3.5, C# 3.0, LINQ, T-SQL and Crystal Reports, AJAX, Silverlight 2.0, as well as web services and security. As part of the assignments, students develop a real-life, Internet-based, advanced software application.

#### **Multimedia Design:**

##### **GRAP2149 - Imaging and Animation**

This course introduces key topics, principles and techniques for 3D imaging and animation, including rendering, virtual environments and the behaviours of objects. The focus will be on the theory of virtual 3D and of virtual worlds and the use of software applications to create 3D animation, dynamics and motion oriented visual design.