

Level 9

- **CSI 510 Graduation Project 1**

This course is the first of a two-course sequence in which the students will develop a complete software system. The second stage will be carried out in CSI420. Students will work in groups of up to four students, each group will have a supervisor to guide them through the system development process using a specific methodology.

- **CSI 511 Web Programming & Internet Technology**

In this first part, each group must identify a problem domain, define the problem, identify and specify the requirements, document the current system, analyze it, propose alternative systems, and design a solution. The design must include the definitions of all the required system models, such as the data model and the functional model. At the end of the course, each group must submit a formal report documenting the complete process.

This course presents number of powerful software technologies that will enable the student to build systems to integrate Internet, web components, and remote databases. It presents the “client-side” and “server-side” of web programming. For the client side it presents a carefully paced introduction to using the popular JavaScript language and the closely related technologies of XHTML (Extensible Hypertext Mark-up Language), CSS (Cascading Style Sheets). Novices will find that the material in the JavaScript chapters presents a solid foundation for the deeper treatment of scripting. The third class concentrates on using technologies such as web servers, databases (integrated collections of data), PHP, ASP.NET, to build the server side of web-based applications.

- **CSI 512 Data Mining**

This course introduces the basic theories and methodologies of data mining process includes data selection and cleaning, machine learning techniques to “learn” knowledge that is “hidden” in data, and the reporting and visualization of the resulting knowledge. This course will cover these issues and will illustrate the whole process by examples of practical applications from the life sciences, computer science, and commerce. Several machine learning topics including classification, prediction, and clustering will be covered. Machine learning packages

- **CSI 513 Concepts of Programming Lang.**

This course introduces to students the following topics: Brief history of programming languages - Formal grammars - BNF notation - Principles of modern programming languages: features, design and evaluation - Imperative versus declarative language styles - General-purpose language features, such as types, operators, expressions, subprograms, recursion, and object-orientation - Special purpose language features, such as support for graphical interface, concurrency, and non-determinism - Relationship between language design and implementation.