**CSC 3115 Advanced Programming**

(a) Description

This course highlights programming practices that are vital in the day today work of a programming professional. While many systems are described by functionalities, some important aspects like security, ro- bustness, and maintainability are ignored. Students are to get an in depth understanding of these concepts as well as exploring the current trends in the programming environment.

(b) Aims

The aim of the course is to concretize the student’s past programming experience as well as highlighting critical practices in programming that are necessary for a professional programmer

(c) Learning outcomes

By the end of the course, the student should be:

*•* Able to implement non functional but critical aspects of program- ming like robustness and security

*•* Able to develop well documented and well structured software that can easily be maintained

*•* Knowledgeable in other programming practices like mobile pro- gramming

*•* Aware of newer programming paradigms like service oriented and cloud computing

(e) Teaching and Learning Pattern

Teaching will be by lectures and lab demonstrations. (f ) Indicative Content

*•* Programming for Security:

*•* Programming for Robustness

*•* Programming for Maintainability

*•* Trends in Programming Paradigms

(g) Assessment method

Assessment will be by tests and practical assignments (40%) and final written examination (60%)

(h) Reading lists

(i) Advanced Programming in the UNIX Environment by W. Richard

Stevens and Stephen A. Rago Addison WEsley 1992