

**Course Number:** CSC 412

**Course Title:** Advanced Software Laboratory

**Number of Credits:** 1

**Schedule:** Two laboratory hours per week.

**Grading:** Credit/No credit

**Prerequisite:** CSC 220, concurrent enrollment in CSC 340 is recommended.

### **Catalog Description**

Hands on exercises in advanced programming, software development tools and Web technologies. Students are encouraged to bring their own laptops.

### **Expanded Description**

The exercises will cover wide range of topics and provide suggested on-line recourses for further reference:

- Use and practice with SW development tools (e.g. debuggers, compilers, code management systems, code repositories (CVS, SVN), make/ANT, branching, merging)
- Advanced programming concepts: pointers, advanced I/O, concurrency, multi-threading
- Basic GUI programming (e.g. java SWING)
- Basics of SQL programming
- Basic WWW server setup, basic PHP
- TBD upon request from other instructors

### **Course Objectives and Role in Program**

The objective of this course is to provide advanced hands-on programming activities, experience in usage of SW development tools and basics of Web development, to supplement and amplify the material that will be covered in CSC 340, CSC 413, CSC 415, CSC 600, CSC 630, CSC 631, CSC 640, CSC 667.

Students will work through a number of advanced hands-on programming exercises during each lab session, under supervision of the instructors. Instructors will provide relevant on-line resources for students' future reference.

### **Learning Outcomes**

At the end of this course students will be able to

- Use tools for SW development and management
- Develop and test more advanced programming assignments and concepts
- Set up and create simple WWW applications

### **Method of Evaluation**

Student learning will be evaluated on the basis of attendance and participation at lab sessions

### **Required Textbooks**

None; most materials will be provided as on-line resources

**Modified by:** D. Petkovic

**Last Revision Approved:** January 2010

Updated April 10, 2013