SIMON FRASER UNIVERSITY
Senate Committee for Undergraduate Studies
NEW COURSE PROPOSAL

Course Number: CMPT 170-3

Course Title: Introduction to Web Application Development
Short Course Title: Intro to Web App Development

Course vector: 3 lecture, 2 lab

Course Description (for Calendar). Attach a course outline to this proposal.

An introduction to the creation of web pages, as well as interactive web sites. Students will learn how to create web pages using current best-practices. Creation of a web-based application using a modern web-application framework.

Prerequisite: CMPT 120 or 126 or 128. Taking CMPT 125 concurrently is highly recommended if 126 or 128 not already completed. Students with credit for CMPT 165 may not take this course for further credit.

Corequisite: none

Course(s) to be dropped if this course is approved: none

Rationale for Introduction of this Course:

This course will be an elective in the proposed Software Systems program for the Surrey campus. The introduction of web application development is now quite accessible to first-year students due to the introduction of full-stack frameworks such as Django and Rails. These frameworks will allow first-year students to complete a fully functional web application (which would have previously involved extensive knowledge of databases and SQL).

This early exposure to software development will integrate well with cohort program in Surrey, and will provide a good lead-in to further software engineering and development courses. This is the focus of the Software Systems program, and early practical experience will be beneficial to students.

Scheduling and Registration Information:

Indicate effective **semester/year** course would be first offered and planned **frequency** of offering thereafter.

Spring 2009, initially offered twice annually in Surrey

Waiver required: no

Will this be a required or elective course in the curriculum?

Elective in the Software Systems program, but may become required for TechOne.

What is the probable enrolment when offered?

30-50 students (depending on status in first year cohort program)

Which of your present CFL faculty have the expertise to offer this course?

Toby Donaldson, Harinder Khangura, John Edgar, Greg Baker, Fred Popowich, Anne Lavergne

Are there any proposed student fees associated with this course other than tuition fees? (if so, attach mandatory supplementary fee approval form)

no

Resource Implications:
Note: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

There are currently very few books that adequately cover the tools used in this course: open source full-stack frameworks are still very new. Students will be directed to online tutorials and references, which are quite well developed.

Campus where course will be taught:

Initial offerings will be on the Surrey campus. Burnaby offerings may follow depending on student interest.

Library report status

_____

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For instance, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

See attached Software Systems Curriculum document.

Any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc.

See attached Software Systems Curriculum document.

Approvals

1. **Departmental approval** indicates that the Department has approved the content of the course, and has consulted with other Departments and Faculties regarding proposed course content and overlap issues.

   _____
   Chair, Dept./School Date

   _____
   Chair, Faculty Curriculum Committee Date

2. **Faculty approval** indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds.

   _____ Date: _____
   Dean or Designate

   List which other Departments and Faculties have been consulted regarding the proposed course content including overlap issues. *Attach documentary evidence of responses.*

   _____
   _____
   _____
   _____

   Other Faculties approval indicates that the Dean(s) or designate of other Faculties affected by the proposed new course support(s) the approval of the new course.

   _____ Date: _____

   _____ Date: _____

3. **SCUS approval** indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

   Course approved by SCUS (Chair of SCUS)

   _____ Date: _____

Approval is signified by date and appropriate signature.

Proposed CMPT 170 Course Outline

In this course, students will be introduced to the technologies underlying the World Wide Web and web pages. Once the basics are covered, they will learn how to create a dynamic database-driven web application.

- the Internet and the WWW (1 week)
- static web pages with XHTML and CSS (2 weeks)
- concepts underlying full-stack frameworks: model-view-controller architecture, object-relational mapping (1 week)
- creating dynamic web sites with Django (2 weeks)
- security basics (1 week)
- validity and semantics in XHTML markup (1 week)
- advanced design with XHTML and CSS (2 weeks)
- more advanced Django concepts (1 week)

[This outline specifies 11 weeks of material. This leaves 6 lectures for project planning sessions, review, and a midterm exam. This can also include holidays and a buffer.]

Before week 6, labs will focus on the basics of creation of web pages and the framework being used in the course. After week 6, the project can begin and labs will focus on the project. Students will have a chance to talk to TAs individually about the design and creation of their web application.

The course project will be a major focus for the course. Students will work individually on a web-based application (examples: weblog system, recipe manager, calendar/appointment manager).

Good practices will be emphasized in both web page creation (valid and semantically meaningful markup, separation of content and presentation), and in software development (encapsulation, object-oriented design, MVC separation). This will be the first independent software development exercise for most students, so the goal will be to get them started with good habits. Marking will reflect this.

Assignments/Labs 20%; Project 25%; Midterm Exam 15%; Final Exam 40%