New Course

Proposal Reference Number : 7798
PRN Alias : 13-14#1211
Version No : 5
Submitted By : Mr Joseph P Vybihal
Edited By : Prof Bettina Kemme

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	New Data
Program Affected?	N
Program Change Form Submitted?	
Subject/Course/Term	COMP 307 • one term
Credit Weight or CEU's	2 credits
Course Activities	Schedule Type / Hours per week A - Lecture / 1.5 P - Project / 0.5 Total Hours per Week : 2 Total Number of Weeks : 13
Course Title	Official Course Title : Principles of Web Development Course Title in Calendar : Principles of Web Development
Rationale	Developing the front and back end of web sites, together with comprehending the various paradigms, theories and current technologies involved in web development is an important and relevant skill to have for students graduating from computer science and planning to work as programmers. Given that McGill's School of Computer Science has no official course in this discipline, this proposal is being presented.
Responsible Instructor	
Course Description	The course discusses the major principles, algorithms, languages and technologies that underlie web development. Students receive practical hands-on experience through a project.
Teaching Dept.	0155 : Computer Science
Administering Faculty/Unit	SC : Faculty of Science
Prerequisites	COMP 206 Web Registration Blocked? : Y Minimum Grade or Test Scores : C Prereq course or test taken at the same time? : N

Corequisites	COMP 303 Web Registration Blocked? : Y
Restrictions	
Supplementary Calendar Info	
Additional Course Charges	
Campus	Downtown
Projected Enrollment	50
Requires Resources Not Currently Available	N
Explanation for Required Resources	
Required Text/Resources Sent To Library?	
Library Consulted About Availability of Resources?	
Consultation Reports Attached?	
Effective Term of Implementation	201409
File Attachments	• New Web Course Proposal vr7.pdf View
To be completed by the Faculty	
For Continuing Studies Use	

Approvals Summary

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Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP	Version Status
5								Approved by Department Meeting Edited by: Bettina Kemme on: Nov 21 2013
4								Approved by Department Meeting Edited by: Josie

								D'Amico on: Nov 21 2013
3								Approved by Department Meeting Edited by: Bettina Kemme on: Nov 21 2013
2		Approved Bettina Kemme Meeting Date: Nov 15 2013 Approval Date: Nov 19 2013 View Comments						Approved by Department Meeting Edited by: Bettina Kemme on: Nov 19 2013
1								Submitted to Departmental Curriculum Committee for approval Created on: Nov 18 2013

McGill University
School of Computer Science

www.cs.mcgill.ca

Course Proposal
Joseph Vybihal, November 2013
(for September 2014)

Course Name: Principles of Web Development

Credits: 2 credits

Motivation: Developing the front and back end of web sites, together with comprehending the various paradigms, theories and current technologies involved in web development is an important and relevant skill to have for students graduating from computer science and planning to work as programmers. Given that McGill's School of Computer Science has no official course in this discipline, this proposal is being presented.

Course Objectives: Students wanting to work as web site developers will need to understand the concepts behind server-side execution, client-side execution, security, language paradigms, distributed processing, interpreters, deployment methods, web frameworks, the architecture of the Internet, and some of the latest techniques and technologies. This would include common practises and common programming languages.

Primary learning outcome: To get a clear understanding of the major principles & algorithms that underlie web development and receive practical hands-on experience through a project.

Secondary learning outcomes: After taking this course, the student should be able to: (1) identify the core technologies in web development and how they are architect-ed, (2) explain the paradigms and principles on which the core functions are built on, (3) be able to discuss major performance issues (data storage and run-time load), and (4) discuss the web technologies and techniques required for a particular target application.

Course Description: The course discusses the major principles, algorithms, languages and technologies that underlie web development. Students receive practical hands-on experience through a project.

Primary Text: None.

Additional Text: Internet & World Wide Web: How To Program; Deitel; ISBN 978-0-13-215100-9
Software Systems; Kendall hunt; ISBN 978-0-7575-9514-1

Evaluation:

Project	30%	Teams of 2 or 3 (last month)
Assignments	20%	2 assignments (first two months)
Presentation	10%	
Final Exam	40%	
McGill CS Tech Web Site	Glory	(0, 1 or 2 entries at most are published to site)

Course Prerequisite: COMP-206
Course Co-Requisite: COMP-303

Impact on COMP 206: All web related content will be removed. COMP 206 will focus on the Linux operating system, the C programming language with GNU, and the Python programming language.

Basic Course Outline

- Introductory Material
  - Networks, the Internet, IP, TCP, UDP, addressing, URL
  - Packet reading
  - Public Key Infrastructure & Internet security
  - Basic Websites (HTML5,CSS,XML) , and browser space computing (Java & JavaScript)
    - Virtual Machines
- Computing Models
  - Server-side vs. client-side computing
  - Transaction-based computing model (http request/response transaction model)
    - CGI
    - Post and Get
  - Push / Pull / Rest model
  - Session Initiation Protocol (SIP) model, files and cookies
  - Socket Computing model
    - Stand-alone application with access to Internet
- Current Development Trends
  - Developing for Facebook
  - Developing with Google's JavaScript tools
  - Amazon Web Services
- Student develops a complex web project
  - Project selection
    - A list of projects will be proposed by the instructor from which students can select from
    - Students can propose their own projects for approval by instructor.
      - These project must employ 3 to 4 technologies.
  - The project would consume the last month of the semester
  - They would be permitted to work in groups of 2 or 3. They may work alone as well.