Faculty of Sci, Eng, & IT

Web Development - Fundamentals

2022-23 Academic Year

Program Title	Ministry Title	Major	Year	Semester
SEIT-Computer Foundations	--	CFND	1	2
SEIT-Computer Programming	--	CPPG	1	2
SEIT-Computer Programming and Analysis	--	CPGA	1	2
SEIT-Computer Programming and Analysis (Co-op)	--	CPGC	1	2
SEIT-Computer Systems Technician	--	CSTC	1	2
SEIT-Computer Systems Technician - ONTechU Transfer	--	CSTU	1	2
SEIT-Computer Systems Technology	--	CSTY	1	2
SEIT-Computer Systems Technology (Co-op)	--	CSCC	1	2

Course Code: INFT 1206		**Course Equiv. Code(s):** WEBD 2201	
Course Hours: 56		**Course GPA Weighting:** 4	
Prerequisite: N/A			
Corequisite: N/A			
Laptop Course: Yes [X] No [ ]			
Delivery Mode(s): In class [X] Online [ ] Hybrid [ ] Correspondence [ ]			

Pandemic remote teaching delivery mode [X] **Fully asynchronous** [ ] **Combined asynchronous and synchronous**		
Remote proctoring required Yes [ ] No [X]		
Authorized by (Dean or Director): Tony Doyle **Date:** October 2022		

Prepared by		
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Course Description:

This course introduces the student to the Internet infrastructure, concentrating on the World Wide Web and Web application servers, and provides an overview of emerging Web development technologies. The lectures introduce the student to essential Web development techniques and features. The labs focus on producing working web pages published on the Internet, and simple interactive Web applications, with validated code for multi-browser compatibility. The server environment is the Apache server on the UNIX-like OS, with MS Windows browsers and editors on the client-side. Server-side Web applications will be created using the PHP scripting language and database functionality will be achieved with and SQL queries will be performed against a PostGreSQL RDBMS running on the server. Students will be required to install and configure software on their laptops, creating a portable development environment.

Campus Closure Notice

In the event of a campus closure during which time classes cannot be conducted or attended in person, course delivery will be conducted remotely where possible. Should teaching and learning resume on campus, students may be organized into smaller groups for classroom delivery, in accordance with directions from public health authorities. In either situation, the learning plan sequence and/or evaluation methods may be adjusted to address topics requiring hands-on, practical learning activities.

Subject Eligibility for Prior Learning Assessment & Recognition (PLAR):

Prior Learning Assessment and Recognition (PLAR) is a process a student can use to gain college credit(s) for learning and skills acquired through previous life and work experiences. Candidates who successfully meet the course learning outcomes of a specific course may be granted credit based on the successful assessment of their prior learning. The type of assessment method (s) used will be determined by subject matter experts. Grades received for the PLAR challenge will be included in the calculation of a student's grade point average.

The PLAR application process is outlined in http://www.durhamcollege.ca/plar. Full-time and part-time students must adhere to all deadline dates. Please email: PLAR@durhamcollege.ca for details.

PLAR Eligibility

Yes [X]   **No** [   ]

PLAR Assessment (if eligible):

[   ] Assignment

[X] Exam

[   ] Portfolio

[   ] Other

> Challenge exam will be a timed practical test requiring the challenging individual to show ability to create HTML pages, server-side scripts, and SQL queries. In addition, the instructor would want to evaluate the challenger's HTML/webpage portfolio. Details would be arranged between candidate and professor.

Course Learning Outcomes

Course Learning Outcomes contribute to the achievement of Program Learning Outcomes for courses that lead to a credential (e.g. diploma). A complete list of Vocational/Program Learning Outcomes and Essential Employability Skill Outcomes are located in each Program Guide.

Course Specific Learning Outcomes (CLO)

Student receiving a credit for this course will have reliably demonstrated their ability to:

CLO1   Explain the history of the Internet and an overview of how it functions, including web publishing and web site management.

CLO2   Utilize several software applications for the assorted phases (planning, creation, validation and publication) of web development, including configuring learner laptops to run as a local database supported web server.

CLO3   Create professional looking web pages to documented industry standards.

CLO4   Explain server-side scripting as a web development concept.

CLO5   Create server-side scripting code, embedded into the course web pages, to enable: decision-making; form processing; database access/querying; and production of dynamic page content.

CLO6   Explain the fundamentals of relational databases, with emphasis on web-based examples.

CLO7   Create a web-based database to incorporate dynamic web page content and to perform web user registration and authentication.

Essential Employability Skill Outcomes (ESSO)

This course will contribute to the achievement of the following Essential Employability Skills:

[ ] EES 1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.

[ ] EES 2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.

[ ] EES 3. Execute mathematical operations accurately.

[X] EES 4. Apply a systematic approach to solve problems.

[ ] EES 5. Use a variety of thinking skills to anticipate and solve problems.

[ ] EES 6. Locate, select, organize, and document information using appropriate technology and information systems.

[ ] EES 7. Analyze, evaluate, and apply relevant information from a variety of sources.

[ ] EES 8. Show respect for the diverse opinions, values, belief systems, and contribution of others.

[ ] EES 9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.

[X] EES 10. Manage the use of time and other resources to complete projects.

[ ] EES 11. Take responsibility for one's own actions, decisions, and consequences.

Evaluation Criteria:

The Course Learning Outcomes and Essential Employability Skills Outcomes are evaluated by the following evaluation criterion.

Evaluation Description	Course Learning Outcomes	EESOs	Weighting
Assignment: Practical Labs (10 @ 3.5%)	CLO2, CLO3, CLO4, CLO5, CLO6, CLO7	EES1, EES2, EES4, EES5, EES7, EES10, EES11	35
Test: Term Test 1	CLO2, CLO3	EES1, EES2, EES4, EES5, EES7, EES10, EES11	20
Test: Term Test 2	CLO1, CLO2, CLO3, CLO4, CLO5	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	20
Test: Term Test 3	CLO3, CLO5, CLO6, CLO7	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	25
Total			**100%**

Notes:

1. The interim mark will be calculated based on results of the first term test and the first four (4) labs.

2. Term tests will be a combination on theoretical questions and practical hands-on assessments. Students will have a closed book portion based on course material presented in-class and assigned readings. Following this, students will be given project requirements for the practical portion that will need to be completed in the time provided. Due to the practical nature of this part of the assessment, students will be able to use any reference notes/online resources they wish.

3. The use of any electronic messaging software or device is not permitted during invigilated evaluation.

4. Plagiarism and cheating are serious breaches of the College's Academic Integrity policy. That policy, defined in ACAD-101 (http://www.durhamcollege.ca/wp-content/uploads/ACAD-101-Academic-Integrity.pdf) will be applied to all students involved in incidents of plagiarism and/or cheating. The penalties could include any of the following (depending on severity of the issue): a mark of zero on an evaluation, a mark of zero in the course, non-admittance to a course or program, withdrawal from a course, or dismissal from the college. In all cases, a formal Academic Alert will be issued that will document the infraction that has taken place, notification will be given to the Dean/Associate Dean and a record will be placed in the student's file.

5. If it is determined that a student has willingly shared any portion or all of an assignment and/or test, or copied from another student, ALL STUDENTS INVOLVED shall be deemed as having cheated, and the penalties described above will apply. This includes sending files to other students for review of concepts/work, viewing/copying someone else's work (with or without their knowledge/permissions) and submitting their work as your own.

6. All tests must be written during the assigned test time in the assigned classroom. In the event a student is absent for a scheduled test, the student will contact the instructor as soon as possible to inform him/her of the absence. Make-up tests will not be provided. However the weighting of one (1) missed test may be applied to the third term test after consultation with the instructor. Students MUST write the third term test at the scheduled timed and place, not doing so will result in a zero (0) for that assessment of the course. NOTE: if a student completes all three (3) term tests and does better on the final test than on the first and/or second test, the weighting of the LOWEST term test will be placed on the final test (the final test mark will always apply).

7. In the case of a missing test solution or an incomplete solution being submitted the missed test policy outlined above may apply. The weighting of one missed test or the missing portion of one test will be applied to the third term test after consultation with the instructor.

8. Lab requirements shall be posted on the course server, the requirements will include project specifications, due dates and specific submission details. Students are encouraged to read lab requirements closely, as there are marks for attention to detail. Students are advised that the key to success in this course, in addition to regular attendance, is the timely completion of the labs.

9. Lab assignments will be based on the weekly intended learning but will assessed on a cumulative basis including all preceding week's intended learning outcomes.

10. Students are expected to complete labs in a timely manner (i.e. on-time) and produce web pages with a professional appearance and content (i.e. no inappropriate content). Completion of labs requires publishing on the course server. HTML or PHP files submitted as email attachments or into DC Connect to the instructor will be discarded.

11. Assignments are due by the due date assigned in class and posted on DC Connect. Each professor will provide a facility for the submission of late assignments up to a maximum of 72 hours after the assignment due date. All late submissions will be assessed a penalty of 25% of the total possible grade for the assignment, regardless of the number of hours late up to but not beyond 72 hours. Assignments should be submitted on time, on a regular basis, to enable you to stay on track within the class. THERE ARE NO EXCEPTIONS TO THE PENALTY.

12. All assignments will be marked and returned within 10 days after the due date of each assignment as posted on DC Connect. If this is not possible, the professor will provide notification in writing on DC Connect.

13. Students are encouraged to complete and submit all assignments throughout the semester as they are the best way to demonstrate and receive feedback on concepts that have been presented during lectures.

14. Students' code completed for assessments in this course is expected to adhere to a style guide. The style guide chosen for this course can be found on DC Connect. Adherence to the style guide will contribute to grading for assessments in this course.

15. Midnight on the last school day of the last week of the semester is the final deadline for submission of any lab or assignment. No lab or assignment will be accepted after that date and time. THIS RULE SUPERSEDES THE 72 HOUR RULE.

Required Text(s) and Supplies:

1. All students must have a Durham College approved laptop computer. Additional web development software will be loaded as required throughout the semester.

   Students will be referred to electronic resources from the Durham College Library Website (instead of purchasing them).

Recommended Resources (purchase is optional):

1. Meloni, J. C. (2004). PHP 5 fast & easy web development. Boston, MA: Thomson.

   NOTE: this textbook can be accessed electronically through the Durham College Library Website, therefore not a required purchase.

   Links to software, PowerPoint Lecture and Lab requirements can be found on the course web server:
       http://opentech.durhamcollege.org/pufferd/inft1206

   Additionally, the instructor will reference and utilize content from the website:
       http://www.w3schools.com

Policies and Expectations for the Learning Environment:

General Policies and Expectations:

General College policies related to	General policies related to
+ Acceptable Use of Information Technology	**+** attendance
+ Academic Policies	**+** absence related to tests or assignment due dates
+ Academic Integrity	**+** excused absences
+ Standards for Student Conduct for all Learning Environments can be found at https://durhamcollege.ca/wp-content/uploads/Standards-of-Student-Conduct-for-all-Learning-Environments.pdf	**+** writing tests and assignments
+ Information about academic policies and procedures can be found on-line at https://durhamcollege.ca/about/governance/policies	**+** classroom management can be found in the Program Guide (full time programs only) in MyDC https://durhamcollege.ca/mydc/

Course Specific Policies and Expectations:

Attendance: The Web Development concepts will be explained in lectures through the use of demonstrations, presentation of theory, and example projects. Though there are no attendance marks per se in this course, consistent attendance has been proven to be a strong indicator of student success in any course. Therefore attendance to both lectures and labs is strongly encouraged.

Students are responsible for material missed during absences.

Academic dishonesty: Students may work together, but each student must eventually produce his/her own assignment for submission, no copying is allowed.

At all times, students are expected to respect that other students have right to a distraction-free learning environment. Failure to comply with this conduct, the student will be asked to leave the class immediately without any warning.

General Course Outline Notes:

1. Students should use the course outline as a learning tool to guide their achievement of the learning outcomes for this course. Specific questions should be directed to their individual professor.

2. The college considers the electronic communication methods (i.e. DC Mail or DC Connect) as the primary channel of communication. Students should check the sources regularly for current course information.

3. Professors are responsible for following this outline and facilitating the learning as detailed in this outline.

4. Course outlines should be retained for future needs (i.e. university credits, transfer of credits etc.)

5. A full description of the Academic Appeals Process can be found at https://durhamcollege.ca/about/governance/policies/academic-policies .

6. Faculty are committed to ensuring accessible learning for all students. Students who would like assistance with academic access and accommodations in accordance with the Ontario Human Rights Code should register with the Access and Support Centre (ASC). ASC is located in room SW116, Oshawa Campus and in room 180 at the Whitby Campus. Contact ASC at 905-721-3123 for more information.

7. Durham College is committed to the fundamental values of preserving academic integrity. Durham College and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments could be subject to submission either by themselves or by the faculty member for a review of textual similarity to Turnitin.com. Further information about Turnitin can be found on the Turnitin.com Web site.

Learning Plan

The Learning Plan is a planning guideline. Actual delivery of content may vary with circumstances.

Students will be notified in writing of changes that involve the addition or deletion of learning outcomes or evaluations, prior to changes being implemented, as specified in the Course Outline Policy and Procedure at Durham College.

Wk.	Hours: 1	Delivery: In Class
1	**Course Learning Outcomes**	
	CLO1	

Essential Employability Skills

Taught: Practiced:

Intended Learning Objectives

Course Introduction

Intended Learning Activities

* discussion of course outline/ Q & A

Resources and References

Course Outline on the course web server
and DC Connect

Evaluation

Wk.	Hours: 1	Delivery: In Class
1	**Course Learning Outcomes**	
	CLO2	

Essential Employability Skills

Taught: Practiced:

Intended Learning Objectives

Course Web Server Orientation:
* Students to become familiar with the course server (opentech.durhamcollege.org).
* connecting to using telnet software; file management using basic Linux commands;

Intended Learning Activities

* demonstration by instructor/practice by student of logging onto the server and changing Linux password for student users

Resources and References

http://opentech.durhamcollege.org/pufferd/shared_software/linux_change_password.mp4

Evaluation

Wk.	Hours:	1	Delivery:	In Class

Wk.	
1	**Course Learning Outcomes** CLO1, CLO2, CLO3
	Essential Employability Skills
	Taught: Practiced:
	Intended Learning Objectives HTML Overview * Describe what HTML is * Describe the difference between HTML, XHTML and HTML5 * Create web page elements, in source code, and parsed by a browser (including hyperlinks and images) * Describe the term validation as it pertains to XHTML web pages * Demonstrate the W3C HTML validation tool
	Intended Learning Activities * lecture/demonstration/discussion
	Resources and References Lecture file on the course web server https://www.w3schools.com/html/default.asp (HTML tutorial) http://www.w3schools.com/tags/default.asp (HTML tag reference)
	Evaluation

Wk.	Hours:	1	Delivery:	In Class

Wk.	
1	**Course Learning Outcomes** CLO2
	Essential Employability Skills
	Taught: Practiced:
	Intended Learning Objectives Web Publishing and FTP * Describe file transfer protocol * Differentiate between web server setups * Demonstrate publishing of web site
	Intended Learning Activities * lecture/demonstration/discussion
	Resources and References Lecture file on the course web server FTP software found on the course web server http://opentech.durhamcollege.org/pufferd/inft1206/lectures/lab1_walkthrough_web_publishing.mp4 https://www.linkedin.com/learning/learning-ftp/connecting-to-an-ftp-server-using-client-software
	Evaluation

Wk.	Hours:	1	Delivery:	In Class

2	**Course Learning Outcomes**
	CLO1

Essential Employability Skills	
Taught:	**Practiced:**

Intended Learning Objectives

URLs and Internet Protocols
*Define what URLs are
*Identify portions of an absolute URL including protocol and domain
*Describe the differences between absolute and relative URLs

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture file on the course web server
https://www.linkedin.com/learning/web-development-foundations-web-technologies/anatomy-of-a-url

Evaluation

Wk.	Hours:	1	Delivery:	In Class

2	**Course Learning Outcomes**
	CLO2, CLO3

Essential Employability Skills	
Taught:	**Practiced:**

Intended Learning Objectives

HTML Tables
* Explain the hierarchy of XHTML table type tags: table, tr, th, td, and caption.
* Describe effective strategies of using table type tags to layout web pages and tabled data
* Demonstrate the use of table type tags on a professional quality
  web page

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture file on the course web server
http://www.w3schools.com/tags/default.asp

Evaluation

Wk.	Hours:	2	Delivery:	Lab

2	**Course Learning Outcomes**
	CLO2, CLO3

Essential Employability Skills

Taught:	EES1, EES3, EES4, EES5, EES7, EES10, EES11	Practiced:	EES1, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 1: Basic XHTML Pages
* Create web page(s) to satisfy Lab 1 requirements

Intended Learning Activities

* discussion/Q & A/implementation

Resources and References

Requirements found on the course web server

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	2	Delivery:	In Class

3	**Course Learning Outcomes**
	CLO1

Essential Employability Skills

Taught:		Practiced:	

Intended Learning Objectives

Cascading Style Sheets
* Explain the purpose/benefits of CSS
* Describe the anatomy of a style
* Define pseudo-elements, classes, units, fonts and colors
* Describe the three (3) methods of incorporating CSS on a web page
* Demonstrate the three (3) methods of incorporating CSS
* Demonstrate laying out web pages using CSS
* Describe potential browser issues using CSS for layout

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture file on the course web server
https://www.w3schools.com/css/default.asp (CSS tutorial)
http://www.w3schools.com/cssref/default.asp (CSS reference)

Evaluation

Wk.	Hours:	2	Delivery:	Lab

Wk.		
3	**Course Learning Outcomes**	
	CLO2, CLO3	

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 2: Working with HTML Tables
* Create web page(s) to satisfy Lab 2 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
http://www.w3schools.com/tags/default.asp
https://www.w3schools.com/html/html_tables.asp (HTML Tables tutorial)

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	1	Delivery:	In Class

4	**Course Learning Outcomes**
	CLO1

Essential Employability Skills

Taught:	**Practiced:**

Intended Learning Objectives

Internet and e-Business Overview
* Explain the history of the contemporary Internet
* Identify components of the World Wide Web (WWW)
* Describe a 3-tier web solution
* Explain the request-response cycle of web page retrieval.
* Identify the 5 different e-Business models
* Explain the 5 different 5 e-business models (incl. Giving examples)
* Differentiate between e-Business and e-Commerce
* List the 3 major events that led to the commercialization of the WWW
* List the advantages and disadvantages of e-business when compared to the traditional brick-and-mortar retail model

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture/video files on the course web server

Evaluation

Wk.	Hours:	1		Delivery:	In Class

4	**Course Learning Outcomes**
	CLO4, CLO5

Essential Employability Skills				
Taught:		**Practiced:**		

Intended Learning Objectives

PHP Scripting Introduction
* Define PHP and server side scripting
* Describe PHP functionality
* Define PHP syntax and operators
* Investigate online PHP resources
* Demonstrate basic PHP page functionality

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture/video files on the course web server
Recommended online textbook

Evaluation

Wk.	Hours:	2		Delivery:	Lab

4	**Course Learning Outcomes**
	CLO2, CLO3

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 3: Formatting and Layout with Styles
* Create web page(s) to satisfy Lab 3 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	2	**Delivery:**	In Class

5

Course Learning Outcomes

CLO1, CLO2, CLO3

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES10, EES11

Intended Learning Objectives

Term Test 1
Consisting of:
* closed-book portion dealing with topics covered in lecture files and from lab requirements (format is T/F, FIB, M/C on DC Connect)
* open-book practical portion where students will create and incorporate a web page into their course websites using concepts from the labs 1 through 3.

Intended Learning Activities

* assess knowledge/skills

Resources and References

N/A

Evaluation	**Weighting**
Test: Term Test 1	20

Wk.	Hours:	2	**Delivery:**	Lab

5

Course Learning Outcomes

CLO2, CLO3, CLO5

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 4: PHP Chapter Files from Textbook
* Create web page(s) to satisfy Lab 4 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
Recommended text: Chapters 4 and 5

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	1	Delivery:	In Class

6	**Course Learning Outcomes**
	CLO6

Essential Employability Skills

   Taught: **Practiced:**

Intended Learning Objectives

Numbering Systems
* Describe binary, octal, decimal, and hexadecimal number systems
* Identify different numbering systems from their prefix
* Describe where each numbering system is most often utilized in IT

Intended Learning Activities

   * lecture/discussion/independent learning

Resources and References

   Lecture file and online resources referenced on the course web server

Evaluation

Wk.	Hours:	1	Delivery:	In Class

6	**Course Learning Outcomes**
	CLO4

Essential Employability Skills

   Taught: **Practiced:**

Intended Learning Objectives

PHP Functions
* Define syntax of PHP functions
* Demonstrate PHP function calls and implementation, including limitations of PHP (i.e. no overloading)

Intended Learning Activities

   * lecture/discussion/independent learning

Resources and References

   Lecture file on the course web server
   Recommended Online Textbook (Appendix A)

Evaluation

Wk.	Hours:	2	Delivery:	In Class

Wk.		
6	**Course Learning Outcomes**	
	CLO2, CLO3, CLO5	

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

HTML Forms
* Describe forms family tags: form, input, select, option, textarea
* Compare and contrast the POST and GET methods of form submission
* Define when/which situations to use GET or POST
* Demonstrate simple form processing using both GET and POST methods

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
Recommended text: Chapter 6 and Appendix C

Evaluation

Wk.	Hours:	2	Delivery:	Lab

Wk.		
7	**Course Learning Outcomes**	
	CLO2, CLO3, CLO5	

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 5: Basic PHP Scripting
* Create web page(s) to satisfy Lab 5 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
Recommended text: Chapter 6 and Appendix C

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	2	Delivery:	In Class		

Wk.	
7	**Course Learning Outcomes**
	CLO1, CLO4

Essential Employability Skills

Taught:		Practiced:	

Intended Learning Objectives

Sticky Forms and Data Validation
* Describe the concept of "sticky forms" when dealing with forms on web pages
* Detail importance of data validation in web development
* Investigate

Intended Learning Activities

* lecture/discussion/independent learning

Resources and References

Lecture file on the course web server
http://www.w3schools.com/tags/default.asp

Evaluation

Wk.	Hours:	2	Delivery:	Lab

Wk.	
8	**Course Learning Outcomes**
	CLO2, CLO3, CLO5

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	Practiced:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 6: Self-referring Forms w/ Data Validation
* Create web page(s) to satisfy Lab 6 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
Recommended text: Chapter 6 and pp. 494-498
http://www.w3schools.com/tags/default.asp

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	1	Delivery:	In Class

8

Course Learning Outcomes

   CLO6

Essential Employability Skills

   Taught: **Practiced:**

Intended Learning Objectives

   Intro to Database Commands
   * Define the acronym SQL
   * Identify the four basic commands (CRUD) that can be run against an existing DB table
   * Define the different SQL data types including qualifiers
   * Demonstrate running of SQL scripts against a PostGreSQL database from the command line
   * Describe and demonstrate the various clauses and qualifiers to narrow/identify/order results from a SQL statement execution
   * Describe an alias for a DB table to simplify SQL statements
   * Demonstrate how to change a DB user password using the ALTER USER command

Intended Learning Activities

   * discussion/ Q & A /demonstration

Resources and References

   Lecture File on the course web server

Evaluation

Wk.	Hours:	1	Delivery:	In Class

8

Course Learning Outcomes

   CLO5, CLO6, CLO7

Essential Employability Skills

   Taught: **Practiced:**

Intended Learning Objectives

   PHP Database Commands
   * Describe the purpose/function of the following PHP database commands: pg_connect(), pg_query(), pg_num_rows(); and pg_fetch_result()
   * Use the above commands to incorporate the data access tier into student web sites

Intended Learning Activities

   * discussion/ Q & A /demonstration

Resources and References

   Lecture File on the course web server

Evaluation

Wk.	Hours:	2	Delivery:	In Class

9

Course Learning Outcomes

CLO1, CLO2, CLO3, CLO4, CLO5

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	Practiced:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Term Test 2
Consisting of:
* closed-book portion dealing with topics covered in lecture files and from lab requirements (format is T/F, FIB, M/C on DC Connect)
* open-book practical portion where students will create and incorporate a web page into their course websites using concepts from the labs 4 through 6.

Intended Learning Activities

* assess knowledge/skills

Resources and References

N/A

Evaluation	**Weighting**
Test: Term Test 2	20

Wk.	Hours:	2	Delivery:	Lab

9

Course Learning Outcomes

CLO2

Essential Employability Skills

Taught:		Practiced:	

Intended Learning Objectives

Configure Laptop as a 3-Tier Web Server
* Identify the three pieces of software that can make a laptop a web server
* Demonstrate the loading and configuring of the various software to run PHP on Apache with a PostGreSQL database back-end

Intended Learning Activities

* demonstration/discussion/implementation

Resources and References

Web server, web scripting and database software found on the course website

Evaluation

Wk.	**Hours:**	3	**Delivery:**	Lab	

10	**Course Learning Outcomes**
	CLO2, CLO3, CLO5, CLO7

Essential Employability Skills			
Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 7: Database Intro
* Create web page(s) to satisfy Lab 7 requirements

Intended Learning Activities

* discussion/ Q & A / implementation

Resources and References

Requirements found on the course web server
Telnet software

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	**Hours:**	1	**Delivery:**	Lab	

10	**Course Learning Outcomes**
	CLO2

Essential Employability Skills			
Taught:	EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 8: Database Intro
* Demonstrate web page(s) running locally on student laptop to satisfy Lab 8 requirements

Intended Learning Activities

* discussion/ Q & A / implementation / demonstration

Resources and References

Requirements found on the course web server

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	1	Delivery:	In Class

11	**Course Learning Outcomes**
	CLO4

Essential Employability Skills

Taught:	Practiced:

Intended Learning Objectives

PHP Provided Functions and Dates
* Describe and implement shared functions to centralize site functionality
* Describe what the PHP provided time() and date() functions do
* Utilize date() and time() functions to update database records and implement dynamic copyright info on web site
* Investigate the PHP manual for all provided functions at http://ca2.php.net/

Intended Learning Activities

* lecture / discussion / Q & A / demonstration

Resources and References

Lecture file on the course web server
http://ca2.php.net/

Evaluation

Wk.	Hours:	3	Delivery:	Lab

11	**Course Learning Outcomes**
	CLO2, CLO3, CLO5, CLO7

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	Practiced:	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 9: Database/PHP Lab - User Login
* Create web page(s) to satisfy Lab 9 requirements

Intended Learning Activities

* discussion / Q & A / implementation

Resources and References

Requirements found on the course web server
http://ca2.php.net/
Telnet software

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	1	Delivery:	In Class

12	**Course Learning Outcomes**
	CLO4

Essential Employability Skills

Taught:		Practiced:

Intended Learning Objectives

Linux Commands
* Describe the syntax of several Linux commands
* Explain the different file permissions on Linux OS for both files and directories
* Utilize various Linux commands to manage students web sites

Intended Learning Activities

* lecture/ discussion / Q & A

Resources and References

Lecture file on the course web server

Evaluation

Wk.	Hours:	1	Delivery:	In Class

12	**Course Learning Outcomes**
	CLO4

Essential Employability Skills

Taught:		Practiced:

Intended Learning Objectives

Email Validation and Page Redirection
* Describe rules that makes a valid email address
* Describe the PHP provided filter_var() function
* Utilize the filter_var() with FILTER_VALIDATE_EMAIL flag to verify user input conforms to valid email rules on a web page as part of site registration
* Describe the PHP provided header() function to re-direct users (including starting and flushing output buffers using the PHP provided ob)_start() and ob_flush) respectively)

Intended Learning Activities

* lecture/ discussion / Q & A

Resources and References

Lecture file on the course web server
http://ca2.php.net/

Evaluation

Wk.	Hours:	2		Delivery:	Lab	

12	**Course Learning Outcomes**			
	CLO2, CLO3, CLO5, CLO7			

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 10: Database/PHP Lab - User Registration
* Create web page(s) to satisfy Lab 10 requirements

Intended Learning Activities

* discussion / Q & A / implementation

Resources and References

Requirements found on the course web server

Evaluation

Wk.	Hours:	4		Delivery:	Lab	

13	**Course Learning Outcomes**			
	CLO2, CLO3, CLO5, CLO7			

Essential Employability Skills

Taught:	EES1, EES2, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 10: Database/PHP Lab - User Registration
* Create web page(s) to satisfy Lab 10 requirements

Intended Learning Activities

* discussion / Q & A / implementation

Resources and References

Requirements found on the course web server

Evaluation	**Weighting**
Assignment: Practical Labs (10 @ 3.5%)	3.5

Wk.	Hours:	2	Delivery:	Lab	

14	**Course Learning Outcomes**
	CLO3, CLO5

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Lab 11: Bonus Lab - Advanced PHP Application - Math Quiz
* Create web page(s) to satisfy Lab 11 requirements

Intended Learning Activities

* discussion / Q & A / implementation / demonstration

Resources and References

Requirements found on the course web server

Evaluation

Wk.	Hours:	2	Delivery:	In Class	

14	**Course Learning Outcomes**
	CLO1, CLO2, CLO3, CLO4, CLO5, CLO6, CLO7

Essential Employability Skills

Taught:	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	**Practiced:**	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11

Intended Learning Objectives

Term Test 3
Consisting of:
* closed-book portion dealing with topics covered in lecture files and from lab requirements (format is T/F, FIB, M/C on DC Connect)
* open-book practical portion where students will create and incorporate a web page into their course websites using concepts from the labs 1 through 10.

Intended Learning Activities

* assess knowledge/skills

Resources and References

Lecture files on the course web server
FTP software
Telnet software
http://www.w3schools.com/tags/default.asp
http://www.w3schools.com/cssref/default.asp

Evaluation	**Weighting**
Test: Term Test 3	25

This course supports the following program(s) and program learning outcomes.

CSCC: Computer Systems Technology (Coop)

#1. Identify, analyze, design, develop, implement, verify and document the requirements for a computing environment.

#3. Analyze, design, implement and maintain secure computing environments.

#4. Analyze, develop and maintain robust computing system solutions through validation testing and industry best practices.

#13. Install, monitor, optimize and administer a database management system in response to specified requirements.

#14. Design, implement, and administer technical support processes for computing system infrastructures that aligns with industry best practice.

CSTC: Computer Systems Technician

#1. Identify, analyze, develop, implement, verify and document the requirements for a computing environment.

#3. Implement and maintain secure computing environments.

#4. Implement robust computing system solutions through validation testing that aligns with industry best practices.

#12. Install and monitor a database management system in response to specified requirements.

#13. Provide technical support for computing system infrastructures that aligns with industry best practice.

CSTU: Computer Systems Technician - UOIT Transfer

#1. Identify, analyze, develop, implement, verify and document the requirements for a computing environment.

#3. Implement and maintain secure computing environments.

#4. Implement robust computing system solutions through validation testing that aligns with industry best practices.

#12. Install and monitor a database management system in response to specified requirements.

#13. Provide technical support for computing system infrastructures that aligns with industry best practice.

CSTY: Computer Systems Technology

#1. Identify, analyze, design, develop, implement, verify and document the requirements for a computing environment.

#3. Analyze, design, implement and maintain secure computing environments.

#4. Analyze, develop and maintain robust computing system solutions through validation testing and industry best practices.

#13. Install, monitor, optimize and administer a database management system in response to specified requirements.

#14. Design, implement, and administer technical support processes for computing system infrastructures that aligns with industry best practice.