DURHAM COLLEGE
SUCCESS MATTERS

School of Business, IT & Management

Web Development - Fundamentals

2018-19 Academic Year

Program	Year	Semester
BITM-Computer Foundations Certificate	1	2
BITM-Computer Programmer Analyst Advanced Diploma	1	2
BITM-Computer Programmer Diploma	1	2
BITM-Computer Systems Technician Diploma	1	2
BITM-Computer Systems Technology Advanced Diploma	1	2

Course Code:	WEBD 2201	**Course Equiv. Code(s):**	INTN 2201, PROG 3283, WEB 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** [ ]		
Authorized by (Dean or Director):	Marianne Marando	**Date:**	June 2018

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.

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 instructor.

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 an 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 authentications

Essential Employability Skill Outcomes (ESSO)

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

- [X] 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.
- [X] EES 2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- [X] EES 3. Execute mathematical operations accurately.
- [X] EES 4. Apply a systematic approach to solve problems.
- [X] 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.
- [X] 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.
- [X] 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
Practical Labs (10 @ 3.5%)	CLO2, CLO3, CLO4, CLO5, CLO6, CLO7	EES1, EES2, EES4, EES5, EES7, EES10, EES11	35
Term Test 1	CLO2, CLO3	EES1, EES2, EES4, EES5, EES7, EES10, EES11	20
Term Test 2	CLO1, CLO2, CLO3, CLO4, CLO5	EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11	20
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) and the accompanying procedure, defined in ACAD-101-1 (http://www.durhamcollege.ca/wp-content/uploads/academic-integrity-procedure.pdf) will be enforced on any 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.
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 to the instructor will be discarded.
11. Assignments are due by the due date assigned in class and posted on DC Connect. Each instructor 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. 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.
13. 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 instructor will provide notification in writing on DC Connect.
14. 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://opentech2.durhamcollege.org/pufferd/webd2201

   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 Honesty	+ excused absences
+ Student Code of Conduct	+ writing tests and assignments
+ Students' Rights and Responsibilities can be found on-line at http://www.durhamcollege.ca/academicpolicies	+ classroom management can be found in the Program Guide (full time programs only) in MyCampus http://www.durhamcollege.ca/mycampus/

Course Specific Policies and Expectations:

Attendance: The Internet 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 dishonsety: 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 http://durhamcollege.ca/gradeappeal.
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
	Intended Learning Objectives Course Introduction
	Intended Learning Activities * discussion of course outline/ Q & A
	Resources and References Course Outline on the course web server
	Evaluation

Wk.	Hours: 1 Delivery: In Class
1	**Course Learning Outcomes** CLO2
	Essential Employability Skills
	Intended Learning Objectives Course Web Server Orientation: * Students to become familiar with the course server (opentech2.durhamcollege.org). * connecting to using telnet software; file management using basic UNIX-like commands;
	Intended Learning Activities * demonstration by instructor/practice by student of logging onto the server
	Resources and References N/A
	Evaluation *Verification that the student has successfully connected to the course web server * Permissions/file names/file structure are assessed components of all practical assignments

Wk.	Hours: 1 Delivery: In Class
1	**Course Learning Outcomes** CLO1, CLO2, CLO3
	Essential Employability Skills
	Intended Learning Objectives XHTML Overview * Describe what HTML is * Describe the difference between HTML and new standard XHTML * Demonstrate common web page tags, in source code form and when parsed by a browser (including hyperlinks and images) * Describe the term validation as it pertains to XHTML web pages * Demonstrate the w3c XHTML validation tool
	Intended Learning Activities * lecture/demonstration/discussion
	Resources and References Lecture file on the course web server http://www.w3schools.com/tags/default.asp
	Evaluation Lab 1: Basic XHTML Pages Term Test 1 Term Test 3

Wk.	Hours: 1 Delivery: In Class
1	**Course Learning Outcomes** CLO2
	Essential Employability Skills
	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
	Evaluation FTP/Web publishing used throughout the semester as part of all assignments/tests submission Term Test 1
Wk.	**Hours:** 2 **Delivery:** Lab
2	**Course Learning Outcomes** CLO2, CLO3
	Essential Employability Skills EES1, EES2, 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 http://www.w3schools.com/tags/default.asp
	Evaluation **Weighting** Practical Labs (10 @ 3.5%) 3.5

Wk.	Hours: 1 Delivery: In Class
2	**Course Learning Outcomes** CLO1
	Essential Employability Skills
	Intended Learning Objectives URLs and Internet Protocols *Define what URLs are *Identify portions of an absolute URL inclugin protocol and domain *Describe the differences between absolute and relative URLs
	Intended Learning Activities * lecture/discussion
	Resources and References Lecture file on the course web server
	Evaluation URLs will be used throughout the semester as part of all assignments/tests submission Term Test 1
Wk.	**Hours:** 1 **Delivery:** In Class
2	**Course Learning Outcomes** CLO2, CLO3
	Essential Employability Skills
	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 aesthetic web pages * Demonstrate the use of table type tags on a professional quality web page
	Intended Learning Activities * lecture/discussion
	Resources and References Lecture file on the course web server http://www.w3schools.com/tags/default.asp
	Evaluation Lab 2: Working with HTML Tables Term Test 1

Wk.	Hours: 2 Delivery: Lab
3	**Course Learning Outcomes** CLO2, CLO3
	Essential Employability Skills 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
	Evaluation **Weighting** Practical Labs (10 @ 3.5%) 3.5

Wk.	Hours: 2 Delivery: In Class
3	**Course Learning Outcomes** CLO1
	Essential Employability Skills
	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
	Resources and References Lecture file on the course web server http://www.w3schools.com/cssref/default.asp
	Evaluation Lab 3: Formatting and Layout with Styles

Wk.	Hours: 2 Delivery: Lab	
4	**Course Learning Outcomes** CLO2, CLO3	
	Essential Employability Skills 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 http://www.w3schools.com/cssref/default.asp	
	Evaluation Practical Labs (10 @ 3.5%)	**Weighting** 3.5

Wk.	Hours: 2 Delivery: Lab	
4	**Course Learning Outcomes** CLO1, CLO2, CLO3	
	Essential Employability Skills EES1, EES2, EES4, EES10, EES11	
	Intended Learning Objectives Term Test 1 Made up of a: * 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 Term Test 1	**Weighting** 20

Wk.	Hours: 1 Delivery: In Class
5	**Course Learning Outcomes** CLO1
	Essential Employability Skills
	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
	Resources and References Lecture file on the course web server
	Evaluation Term Test 2

Wk.	Hours: 1 Delivery: In Class
5	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	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/demonstration
	Resources and References Lecture file on the course web server
	Evaluation Lab 4: PHP Chapter Files from Textbook Term Test 2
Wk.	**Hours:** 2 **Delivery:** Lab
5	**Course Learning Outcomes** CLO2, CLO3, CLO5
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5

Wk.	Hours: 1 Delivery: In Class
6	**Course Learning Outcomes** CLO1
	Essential Employability Skills
	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
	Resources and References Lecture file on the course web server
	Evaluation Term Test 2

Wk.	Hours: 1 Delivery: In Class
6	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	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
	Resources and References Lecture file on the course web server
	Evaluation Lab 5: Basic PHP Scripting Lab 6: Self-referring Forms w/ Data Validation Lab 7: Database Intro

Wk.	Hours: 2 Delivery: Lab
6	**Course Learning Outcomes** CLO2, CLO3, CLO5
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5%
Wk.	**Hours:** 1 **Delivery:** In Class
7	**Course Learning Outcomes** CLO1, CLO4
	Essential Employability Skills
	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 * lecture/discussion
	Resources and References Lecture file on the course web server http://www.w3schools.com/tags/default.asp
	Evaluation Lab 6: Self-referring Forms w/ Data Validation Lab 9: Database/PHP Lab - User Login Lab 10: Database/PHP Lab - User Registration Term Test 2 Term Test 3

Wk.	Hours: 2 Delivery: In Class
7	**Course Learning Outcomes** CLO1, CLO4
	Essential Employability Skills
	Intended Learning Objectives Sticky Forms and Data Validation * Describe the concept of "sticky forms" when dealing with form on web pages * Detail importance of data validation in web development * Investigate
	Intended Learning Activities * lecture/discussion
	Resources and References Lecture file on the course web server
	Evaluation Lab 6: Self-referring Forms w/ Data Validation Lab 9: Database/PHP Lab - User Login Lab 10: Database/PHP Lab - User Registration Term Test 2 Term Test 3
Wk.	**Hours:** 1 **Delivery:** Lab
7	**Course Learning Outcomes** CLO2, CLO3, CLO5
	Essential Employability Skills 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
	Evaluation

Wk.	Hours: 3 Delivery: Lab
8	**Course Learning Outcomes** CLO2, CLO3, CLO5
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5%

Wk.	Hours: 1 Delivery: In Class
8	**Course Learning Outcomes** CLO6
	Essential Employability Skills
	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 qulaifiers * 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 Lab 7: Database Intro Lab 8: Configuring Laptops to Run Apache, PHP and PostGreSQL Lab 9: Database/PHP Lab - User Login Lab 10: Database/PHP Lab - User Registration Term Test 3

Wk.	Hours: 2 Delivery: Lab
9	**Course Learning Outcomes** CLO1, CLO2, CLO3, CLO4, CLO5
	Essential Employability Skills EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11
	Intended Learning Objectives Term Test 2 Made up of a: * 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** Term Test 2 20%

Wk.	Hours: 2 Delivery: Lab
9	**Course Learning Outcomes** CLO2
	Essential Employability Skills
	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 software found on the course web server Database software found on the course web server Telnet software found on the course web server
	Evaluation Lab 8: Configuring Laptops to Run Apache, PHP and PostGreSQL

Wk.	Hours: 2 Delivery: In Class
10	**Course Learning Outcomes** CLO6
	Essential Employability Skills
	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 * lecture/discussion/denmonstration
	Resources and References Lecture file on the course web server
	Evaluation Lab 7: Database Intro Lab 9: Database/PHP Lab - User Login Lab 10: Database/PHP Lab - User Registration Term Test 3
Wk.	**Hours:** 1 **Delivery:** Lab
10	**Course Learning Outcomes** CLO2, CLO3, CLO5, CLO7
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5%

Wk.	Hours: 1 Delivery: Lab
10	**Course Learning Outcomes** CLO2
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5%
Wk.	**Hours:** 2 **Delivery:** In Class
11	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	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 Lab 9: Database/PHP Lab - User Login Lab 10: Database/PHP Lab - User Registration Term Test 3

Wk.	Hours: 2 Delivery: Lab
11	**Course Learning Outcomes** CLO2, CLO3, CLO5, CLO7
	Essential Employability Skills
	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
Wk.	**Hours:** 1 **Delivery:** In Class
12	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	Intended Learning Objectives UNIX Commands * Describe the syntax of several UNIX-like commands * Explain the different file permissions on UNIX-like OS for both files and directories * Utilize various UNIX commands to manage students web sites
	Intended Learning Activities * lecture/ discussion / Q & A
	Resources and References Lecture file on the course web server
	Evaluation Term Test 3

Wk.	Hours: 2 Delivery: Lab
12	**Course Learning Outcomes** CLO2, CLO3, CLO5, CLO7
	Essential Employability Skills 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** Practical Labs (10 @ 3.5%) 3.5%

Wk.	Hours: 1 Delivery: In Class
12	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	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 Lab 10: Database/PHP Lab - User Registration Term Test 3

Wk.	Hours: 2 Delivery: In Class
13	**Course Learning Outcomes** CLO4
	Essential Employability Skills
	Intended Learning Objectives PHP File Handling * Explain what the term "file handling means" * Use fopen() and fclose() PHP functions to create file streams in various modes
	Intended Learning Activities * lecture/ discussion / Q & A
	Resources and References Lecture file on the course web server http://ca2.php.net/
	Evaluation Term Test 3

Wk.	Hours: 2 Delivery: Lab	
13	**Course Learning Outcomes** CLO2, CLO3, CLO5, CLO7	
	Essential Employability Skills 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 Practical Labs (10 @ 3.5%)	**Weighting** 3.5%

Wk.	Hours: 1 Delivery: In Class
14	**Course Learning Outcomes** CLO1, CLO4, CLO6
	Essential Employability Skills
	Intended Learning Objectives Review for Term Test 3
	Intended Learning Activities * discussion/ Q & A/ strategy planning
	Resources and References Lecture files on the course web server
	Evaluation Term Test 3
Wk.	**Hours:** 1 **Delivery:** Lab
14	**Course Learning Outcomes** CLO3, CLO5
	Essential Employability Skills 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 Practical Labs (10 @ 3.5%)

Wk.	Hours: 2 Delivery: Lab
14	**Course Learning Outcomes** CLO1, CLO2, CLO3, CLO4, CLO5, CLO6, CLO7
	Essential Employability Skills EES1, EES2, EES3, EES4, EES5, EES7, EES10, EES11
	Intended Learning Objectives Term Test 3 Made up of a: * 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** Term Test 3 25%