

Title (Units): **COMP2018 Computer Systems and Software Workshop I (1,0,3)**

Course Aims: (i) To gain hands-on experience on database and web server administration, web programming and (ii) to get exposure to some state-of-the-art software development environments and tools.

Prerequisite: COMP2026 Problem Solving Using Object Oriented Programming

Course Intended Learning Outcomes (CILOs):

Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Describe the implementation details of server administration
2	Describe the fundamental elements of client-side web programming
3	Describe the fundamental elements of server-side web programming
	Professional Skill
4	Set up a database and a web server
5	Perform client-side web programming
6	Perform server-side web programming

Calendar Description: This laboratory provides practical hands-on experience on network and server administration, server-side and client-side web programming.

Teaching and Learning Activities (TLAs):

CILOs	Type of TLA
1-3	Students will acquire knowledge and skills on computer systems and software tools via lectures, software demonstrations and briefings on worksheets
4-6	Students will practice their skills with guided lab assignments, projects and practical tests

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Continuous Assessment	100%	1-6	This course is emphasized on the hands-on tools and applications in the three areas. Assignments, projects and/or practical tests are designed in each area to evaluate students' proficiency.

Assessment Rubrics:

	Excellent (A)	Good (B)	Satisfactory (C)	Marginal Pass (D)	Fail (F)
Network and Server Administration	<ul style="list-style-type: none">Excellent mastery of Linux installation and configurationExcellent mastery of Linux network and Apache web server	<ul style="list-style-type: none">Good mastery of Linux installation and configurationGood mastery of Linux network and Apache web server administration	<ul style="list-style-type: none">Acceptable mastery of Linux installation and configurationAcceptable mastery of Linux network and Apache web server	<ul style="list-style-type: none">Some mastery of Linux installation and configurationSome mastery of Linux network and Apache web server administration	<ul style="list-style-type: none">No mastery of Linux installation and configurationNo mastery of Linux network and Apache web server administration

	Excellent (A)	Good (B)	Satisfactory (C)	Marginal Pass (D)	Fail (F)
	administration		administration		
Client-side Web Programming	Excellent mastery of a computer language to perform client-side web programming	Good mastery of a computer language to perform client-side web programming	Acceptable mastery of a computer language to perform client-side web programming	Some mastery of a computer language to perform client-side web programming	No mastery of a computer language to perform client-side web programming
Server-side Web Programming	Excellent mastery of a computer language to perform server-side web programming	Good mastery of a computer language to perform server-side web programming	Acceptable mastery of a computer language to perform server-side web programming	Some mastery of a computer language to perform server-side web programming	No mastery of a computer language to perform server-side web programming

Course Content and CILOs Mapping:

Content		CILO No.
I	Network and Server Administration	1,4
II	Client-side Web Programming	2,5
III	Server-side Web Programming	3,6

References:

- Nixon, Robin. Learning PHP, MySQL & JavaScript: with jQuery, CSS & HTML5. 4th edition. O'Reilly Media, Inc, 2014.
- Sebesta, Robert W. Programming the World Wide Web. 8th edition, 2015.
- Simon, Mark. Introduction to Ajax Client Server Communications on the Web. O'Reilly & Associates Inc, 2016.
- Soyinka, Wale. Linux administration: a beginner's guide. 7th edition, McGraw-Hill Education, 2016.

Course Content:

Topic

- I. Network and Server Administration
 - A. Installation and configuration of Linux
 - B. Basic Linux network administration
 - C. Apache Web server administration
 - D. Database server administration
- II. Client-side Web Programming
 - A. HTML and CSS
 - B. Data types and operators
 - C. Functions
 - D. Client-side scripting and Document Object Model
- III. Server-side Web Programming
 - A. File operations
 - B. Database access
 - C. Asynchronous JavaScript and XML (Ajax)