ZEIT3119 Web Development and Security - 2024

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General Course Information

Course Code : ZEIT3119
Year : 2024
Term : Semester 1
Teaching Period : Z1
Is a multi-term course? : No
Faculty : UNSW Canberra
Academic Unit : School of Systems and Computing
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : UNSW Canberra at ADFA
Campus : UNSW Canberra
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Developing the server-side web application infrastructure requires an understanding in the client-server mechanisms. The course teaches how web server receives and processes requests from the users. The process creates dynamic pages, where the subsequent page view depends on

what the user requests. The web infrastructure use a separate database server to persist and look up information to allow rich web content. The course further points to the weaknesses in web development from the security point of view. It shows how users can attack web sites through manipulating web requests to change the behaviour of web applications. Depending on the degree of the attacks, damages to the victim web sites varies. The course allows students to assess the degree of security of web systems.

Course Aims

The course introduces students to core concepts and practical skills for developing server-side infrastructure for web applications.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Plan and develop dynamic websites through independent and group work and adhering to ICT ethics.
CLO2 : Analyse and demonstrate technical understanding of web building strategies.
CLO3 : Understand and create a user-centred focus on developing and designing websites.
CLO4 : Analyse and demonstrate knowledge in contemporary prevention techniques in building secure websites.

Course Learning Outcomes	Assessment Item
CLO1 : Plan and develop dynamic websites through independent and group work and adhering to ICT ethics.	• Capture the Flag (CTF) • Final Exam
CLO2 : Analyse and demonstrate technical understanding of web building strategies.	• Group Project • Final Exam
CLO3 : Understand and create a user-centred focus on developing and designing websites.	• Capture the Flag (CTF) • Group Project • Final Exam
CLO4 : Analyse and demonstrate knowledge in contemporary prevention techniques in building secure websites.	• Capture the Flag (CTF) • Group Project • Final Exam

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Learning and Teaching in this course

There is no compulsory text for this course. There are recommended readings.

Other Professional Outcomes

LO1: Plan and develop dynamic websites through independent and group work and adhering to ICT ethics.

LO 2: Analyze and Demonstrate technical understanding of web building strategies;

LO 3: Understand and create a user-centred focus on developing and designing websites.

LO 4: Analyze and Demonstrate knowledge in contemporary prevention techniques in building secure websites.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Capture the Flag (CTF) Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: Not Applicable
Group Project Assessment Format: Group	30%	Start Date: 14/03/2024 06:00 PM Due Date: 31/05/2024 06:00 PM
Final Exam Assessment Format: Individual	40%	

Assessment Details
Capture the Flag (CTF)

Assessment Overview

Capture the flag is a practical component where a student demonstrates they can complete a practical task. Often successful completion generates a flag that proves completion.

Course Learning Outcomes

- CLO1 : Plan and develop dynamic websites through independent and group work and adhering to ICT ethics.
- CLO3 : Understand and create a user-centred focus on developing and designing websites.
- CLO4 : Analyse and demonstrate knowledge in contemporary prevention techniques in building secure websites.

Detailed Assessment Description

This consists of a series of tutorial exercises. Capture the flag exercises will occur during the tutorial time and will be demonstrated by the students during the tutorial. Submission will be by both demonstrations and written answers.

Assessment information

Up to 6 CTFS will be required, these will be due on the week they are given in the lab they are given.

Assignment submission Turnitin type

Not Applicable

Group Project

Assessment Overview

A collaborative group assessment designed to facilitate student cooperation and enhance their learning experience by actively participating in the creation of a tangible output.

Course Learning Outcomes

- CLO2 : Analyse and demonstrate technical understanding of web building strategies.
- CLO3 : Understand and create a user-centred focus on developing and designing websites.
- CLO4 : Analyse and demonstrate knowledge in contemporary prevention techniques in building secure websites.

Assessment information

A code and written compenet will be required. The code will be demonstrated in class prior to the deadline

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Final Exam

Assessment Overview

Final examination: is a Summative assessment scheduled at the conclusion of the academic semester, the Final Exam is a comprehensive evaluation that spans the breadth and depth of the course curriculum. It encompasses a diverse array of question formats, ranging from multiple-choice and short-answer question and problem-solving scenarios.

Course Learning Outcomes

- CLO1 : Plan and develop dynamic websites through independent and group work and adhering to ICT ethics.
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- CLO4 : Analyse and demonstrate knowledge in contemporary prevention techniques in building secure websites.

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 26 February - 1 March	Lecture	Introduction to HTML
	Laboratory	
Week 2 : 4 March - 8 March	Lecture	Web architectures
	Laboratory	
Week 3 : 11 March - 15 March	Lecture	Broken Access Control
	Laboratory	
Week 4 : 18 March - 22 March	Lecture	Code Injection
	Laboratory	
Week 5 : 25 March - 29 March	Lecture	Insecure design No Lab
Week 6 : 1 April - 5 April	Lecture	Server-side request forgery
	Laboratory	
Week 7 : 22 April - 26 April	Lecture	ANZAC day - No lecture or labs this week
Week 8 : 29 April - 3 May	Lecture	Software and data integrity failures Identification and authentication failures
	Laboratory	
Week 9 : 6 May - 10 May	Lecture	Lecture: Security logging and monitoring Military traning day on Friday No CTF or labs this week.
Week 10 : 13 May - 17 May	Lecture	Security misconfiguration
	Laboratory	
Week 11 : 20 May - 24 May	Lecture	Revision - No labs this week
Week 12 : 27 May - 31 May	Lecture	Project Presentations

Attendance Requirements

Students are strongly encouraged to attend all lectures and review lecture recordings.

Lecture recording may not be available for all classes.

Tutorials must be attended as CTFs will be demonstrated during tutorial time.

Course Resources

Recommended Resources

OWASP Top 10: https://owasp.org/www-project-top-ten/

Nixon, R. (2021). Learning PHP, MySQL & JavaScript: with jQuery, CSS & HTML5. Sixth edition. Sebastopol, CA, O'Reilly Media, Inc.

Niederst Robbins, J. (2018). Learning Web Design: a beginner's guide to HTML, CSS, Javascript, and Web Graphics. Fifth edition. Beijing ; Sebastopol, CA, O'Reilly.

https://www.w3schools.com

Course Evaluation and Development

One of the key priorities in the 2025 Strategy for UNSW is a drive for academic excellence in education. One of the ways of determining how well UNSW is progressing towards this goal is by listening to our own students. Students will be asked to complete the myExperience survey towards the end of this course.

Students can also provide feedback during the semester via: direct contact with the lecturer, the "On-going Student Feedback" link in Moodle, Student-Staff Liaison Committee meetings in schools, informal feedback conducted by staff, and focus groups. Student opinions really do make a difference. Refer to the Moodle site for this course to see how the feedback from previous students has contributed to the course development.

Important note: Students are reminded that any feedback provided should be constructive and professional and that they are bound by the Student Code of Conduct Policy

https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Tim Lynar				Consultation at any time in working hours. Please phone or email to make an appointment.	No	Yes
Lecturer	Faycal Bou hafs		Room 213, Building 15	02 5114 5328	Consultation at any time in working hours. Please phone or email to make an appointment.	No	No

Other Useful Information

Academic Information

Course Evaluation and Development

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Important note: Students are reminded that any feedback provided should be constructive and professional and that they are bound by the Student Code of Conduct.

https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf

Equitable Learning Services (ELS)

Students living with neurodivergent, physical and/or mental health conditions or caring for someone with these conditions may be eligible for support through the Equitible Learning Services team. Equitable Learning Services is a free and confidential service that provides practical support to ensure your mental or physical health conditions do not adversely affect your studies.

Our team of dedicated **Equitable Learning Facilitators** (ELFs) are here to assist you through this process. We offer a number of services to make your education at UNSW easier and more equitable.

Further information about ELS for currently enrolled students can be found at: https://www.student.unsw.edu.au/equitable-learning

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to this principle of academic integrity. All students are expected to adhere to UNSW's Student Code of Conduct. Find relevant information at: Student Code of Conduct (unsw.edu.au)

Plagiarism undermines academic integrity and is not tolerated at UNSW. It is defined as using the words or ideas of others and passing them off as your own, and can take many forms, from deliberate cheating to accidental copying from a source without acknowledgement.

For more information, please refer to the following:

https://student.unsw.edu.au/plagiarism

Submission of Assessment Tasks

Special Consideration

Special Consideration is the process for assessing and addressing the impact on students of short-term events, that are beyond the control of the student, and that affect performance in a specific assessment task or tasks.

Applications for Special Consideration will be accepted in the following circumstances only:

- Where academic work has been hampered to a substantial degree by illness or other cause;
- The circumstances are unexpected and beyond the student's control;
- The circumstances could not have reasonably been anticipated, avoided or guarded against by the student; and either:

   (i) they occurred during a critical study period and was 3 consecutive days or more duration, or a total of 5 days within the critical study period; or

   (ii) they prevented the ability to complete, attend or submit an assessment task for a specific date (e.g. final exam, in class test/quiz, in class presentation)

Applications for Special Consideration must be made as soon as practicable after the problem occurs and at the latest within three working days of the assessment or the period covered by the supporting documentation.

By sitting or submitting the assessment task the student is declaring that they are fit to do so and cannot later apply for Special Consideration (UNSW 'fit to sit or submit' requirement).

Sitting, accessing or submitting an assessment task on the scheduled assessment date, after applying for special consideration, renders the special consideration application void.

Find more information about special consideration at: https://www.student.unsw.edu.au/special/consideration/guide

Or apply for special consideration through your MyUNSW portal.

Late Submission of assessment tasks (other than examinations)

UNSW has a standard late submission penalty of:

- 5% per day,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Electronic submission of assessment

Except where the nature of an assessment task precludes its electronic submission, all assessments must be submitted to an electronic repository, approved by UNSW or the Faculty, for archiving and subsequent marking and analysis.

Release of final mark

All marks obtained for assessment items during the session are provisional. The final mark as published by the university following the assessment review group meeting is the only official mark.

School-specific Information

The Leaning Management System

Moodle is the Learning Management System used at UNSW Canberra. All courses have a Moodle site which will become available to students at least one week before the start of semester.

Please find all help and documentation (including Blackboard Collaborate) at the Moodle Support page.

UNSW Moodle supports the following web browsers:

• Google Chrome 50+

• Safari 10+

Internet Explorer is not recommended. Addons and Toolbars can affect any browser's performance.

Operating systems recommended are:

• Windows 10,

• Mac OSX Sierra,

• iPad IOS10

Further details:

[Moodle System Requirements](#)

[Moodle Log In](#)

If you need further assistance with Moodle:

For enrolment and login issues please contact:

IT Service Centre

Email: itservicecentre@unsw.edu.au

Phone: (02) 9385-1333

International: +61 2 9385 1333

For all other Moodle issues please contact:

External TELT Support

Email: externalteltsupport@unsw.edu.au

Phone: (02) 9385-3331

International: +61 2 938 53331

Opening hours:

Monday – Friday 7:30am – 9:30 pm

Saturday & Sunday 8:30 am – 4:30pm

[Study at UNSW Canberra](#)

Study at UNSW Canberra has lots of useful information regarding:

• Where to get help

- Administrative matters

- Getting your passwords set up

- How to log on to Moodle

- Accessing the Library and other areas.

[UNSW Canberra Student Hub](#)

For News and Notices, Student Services and Support, Campus Comminity, Quick Links, Important Dates and Upcoming Events

School Contact Information

Deputy Head of School (Education): Dr Erandi Hene Kankanamge

E: e.henekankanamge@adfa.edu.au

T: 02 5114 5157

Syscom Admin Support: syscom@unsw.edu.au

T: 02 5114 5284

Syscom Admin Office: Building 15, Level 1, Room 101 (open 10am to 3pm, Mon to Fri)