U O W

CSCI410/910:

Software Requirements, Specifications and Formal Methods

Dr. Shixun Huang

UNIVERSITY
OF WOLLONGONG
AUSTRALIA

Health and Safety Information for Students

Commencement of Session

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What to do in an emergency?

KEEP CALM – STAY SAFE

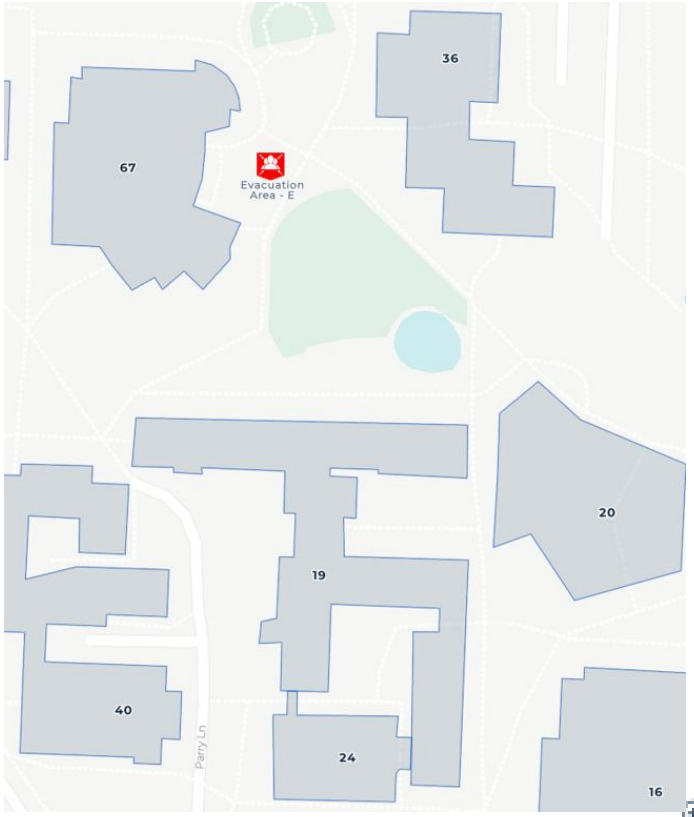
If the alarm sounds or you are notified to evacuate:

- Follow instructions of building warden or staff member
- Leave by the nearest safe emergency exit
- Proceed to your emergency evacuation assembly point
- Await further instructions
- Do not return to the building until it is safe to do so

If required to take shelter:

- Follow instructions of building warden or staff member
- Lock doors, close windows/blinds and seek refuge
- Await further instructions

The nearest assembly area for this building is:



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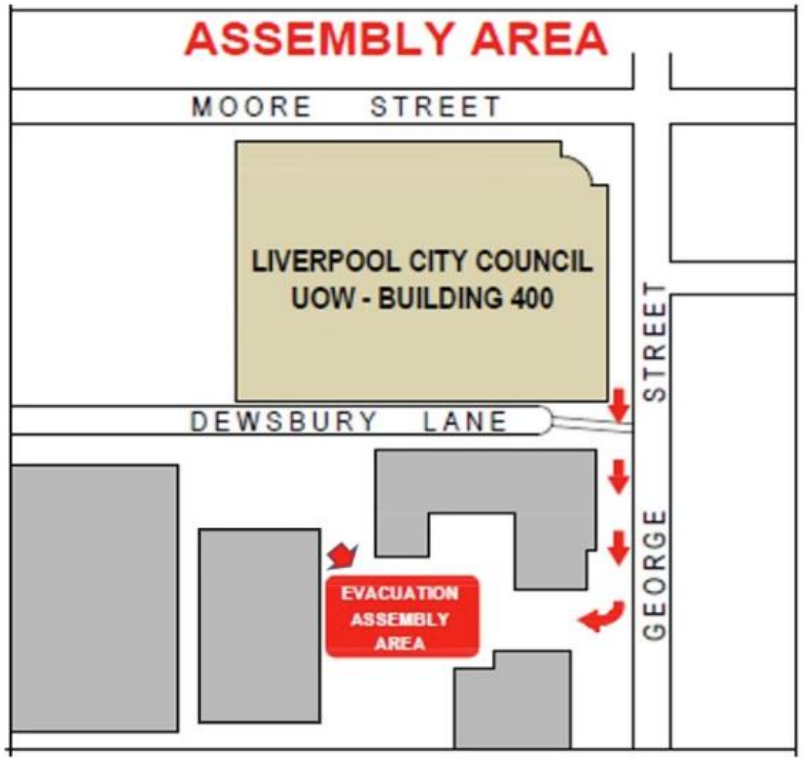

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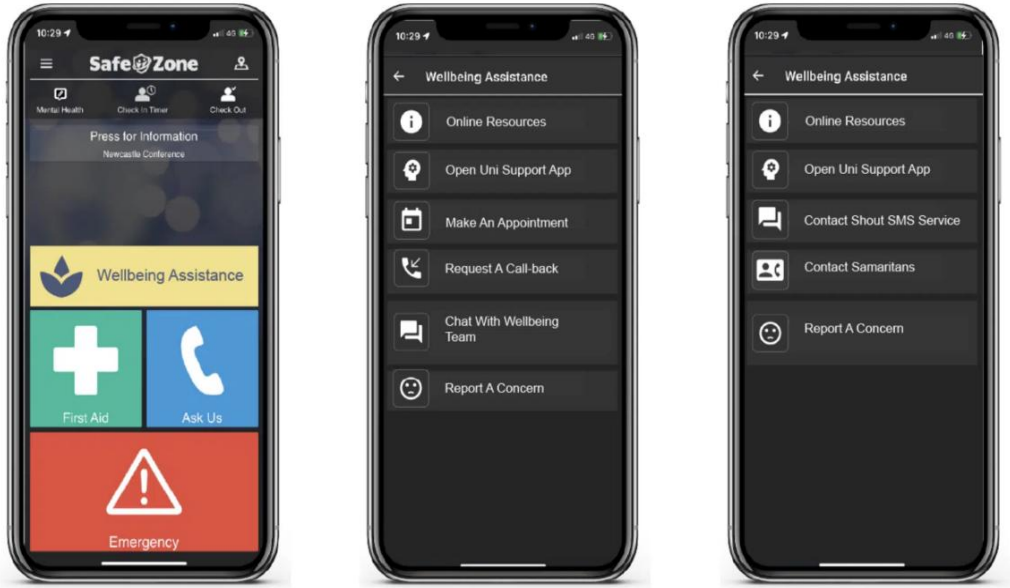
Need assistance on campus?

WE ARE HERE TO HELP

If you require first aid or medical assistance while on campus:

- Locate a first aid officer, or
- Call UOW Security on 4221 4900, or
- Use Wellbeing Assistance, First Aid or Emergency buttons on SafeZone App available free for iOS, Android and Windows.



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Reporting hazards

KEEPING YOUR UNIVERSITY SAFE AND COMFORTABLE

If you notice any hazards (e.g. broken furniture or equipment) in your teaching area or anywhere on Campus:

- Report it to your Lecturer/Tutor/Supervisor
- The University has an online hazard and incident reporting tool called SafetyNet
- Report IT equipment hazards to Information Management and Technology Services on 4221 3000
- Report building and grounds hazards to Facilities Management Division on 4221 3217

Smoke-Free University

SAY GOODBYE TO SECONDHAND SMOKE

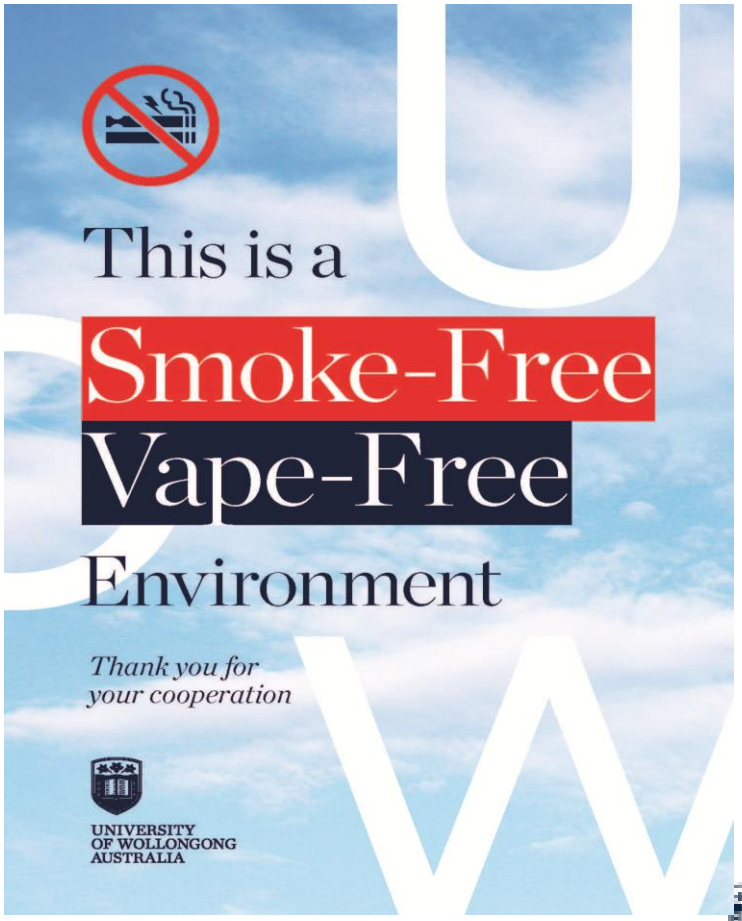
All UOW public areas including buildings, eating areas, grounds, pathways and transport stops have been smoke-free since July 2016.

This includes the use of vapes and e-cigarettes.

Please co-operate with this policy to help make our campus healthier for everyone.

For more information:

uow.info/smoke-free



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For more information: uow.info/safe-at-work

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Lecturers and Tutors

Lecturer

Dr. Shixun Huang

- Email: shixunh@uow.edu.au
- Office: Building 3, room 103
- Consultation Time: 15:00~17:00 (Tue.), 15:00~17:00 (Thur.)

Tutors to be confirmed

Lecture and Workshop

Lecture Schedule (Week 1 ~ Week 13):

- Monday. 8:30am ~ 10:30am (2 hours)
- Venue: Building 20, room 2 (Wollongong campus)
- Liverpool students can join the lectures via Webex. You must access the links via Moodle.

Workshop Schedule (Week 2 ~ Week 12):

- Tue. 10:30 ~ 11:30 (Wollongong, 3-127)
- Tue. 11:30 ~ 12:30 (Wollongong, 3-127)
- Tue. 12:30 ~ 13:30 (Wollongong, 3-127)
- Tue. 12:30 ~ 13:30 (Liverpool, online via Webex, the link is available in Moodle), no recording.

Your workshop attendance will be recorded:

- Satisfactory attendance is deemed by the University, to be attendance at approximately 80% of the allocated contact hours.

Content

- Introduction to Requirements Engineering in Software
- Requirements Elicitation and Writing
- FSM, DFD, Petri Nets, Colored PN
- Introduction to formal specification
- Z method

Objectives

A student who successfully complete this subject should be able to:

- Describe state of the art techniques of software requirements elicitation and analysis.
- Explain how software system requirements are translated to appropriate software specifications expressed in a range of different formalisms.
- Analyse a representative software engineering problem and develop an appropriate formal specification using Z notation
- Identify circumstances requiring formal software engineering techniques.
- Verify the correctness of a formal specification

Method of Presentation

- All teaching materials will be available on e-learning space (Moodle).
- Workshops will be related to the lecture topics and practical work.
- Satisfactory attendance at lectures and tutorials is required for the successful completion of this course.

Main text

- *Requirements Engineering for Software and Systems, Third Edition, Taylor & Francis Group, CRC Press, 2017*

- *The Z Notation: A Reference Manual,* J M Spivey, Prentice Hall (1992).

- Mastering the Requirements Process, S. Roberson and J. Robertson, Addison-Wesley (1999).

- Requirement Engineering: A good practice guide, Ian Somerville & Peter Sawyer, Wiley (1998)

- The use of other material will be explained in lectures, and material will be made available on e-learning.

Assessment components

This subject has the following assessment components.

Assessment Items	Percentage	
Formative assessment	0%	(individual, before census date)
Assignment 1	10%	(individual, due 14th April)
Assignment 2	30%	(2 people, due 2nd June)
Final Exam.	60%	(individual, exam week)

Important note of assignment 2: the group size is up to 2 and send group member info to shixunh@uow.edu.au by week 3 (23rd March).

Generative AI (e.g., ChatGPT) is not allowed in this subject.

Assessment

- **Assignments are to be submitted to Moodle Site**
- **Email submissions are not not accepted**
- **You must submit an Academic Consideration via SOLS for the extension**
- **The extension is 1 week (maximally)**
- **Without the AC, penalties will apply to all late work. 5% will be deducted each day including weekends.**
- **Work submitted after *seven* calendar days will not be marked and will be given a mark of 0.**
- **Penalties accrue on each day that the assessment task is late, including Saturday, Sunday and public holidays.**

Notes:

- Plagiarism may result in a FAIL grade being recorded for that assessment task.

- **To be eligible for a Pass in this subject a student must achieve a mark of at least 40% in the final examination. For example, suppose the total mark in the exam is 60. A student needs to get at least 24 marks from the final exam in order to pass the subject.**
- **Students who fail to achieve this minimum mark will be given a TF (Technical Fail) for this subject.**

Additional Information

1. A student whose overall performance results in a TF may be granted a supplementary assessment task (e.g. a supplementary exam or a supplementary assignment) if approved by the school assessment committee. In this case, the maximum grade attainable is PS (Pass Supplementary) and a mark of 50%.
2. A student who achieves a mark of 48-49% will normally be eligible for a grade of WS and a supplementary exam organized by the University. In this case, the maximum grade attainable is PS (Pass Supplementary) and a mark of 50%.

3. A student who has successfully applied for academic consideration will receive either:
   - A WD - Withheld Deferred Exam - and be allowed to sit only a supplementary exam, or
   - A WH/WS – Withheld/Withheld Supp Exam – and be allowed to sit a supplementary exam, and your mark can only be 50 PS maximally.

4. If a student is being investigated for misconduct and the investigation cannot be completed before the grades are released, the student will receive a grade of WH until a mark is declared.

5. If your grade is WD/WS/WH and you are a PG, you may not able to attend the graduation ceremony.

Special Consideration Policy

The School recognizes that it has a responsibility to ensure equity and consistency across its subjects for all students. Sometimes, in exceptional circumstances, students need to apply for student special consideration in order to complete all assessable work.

As an example: If a student requires an extension of time for the completion of an assignment this may be granted in certain circumstances. A request for an extension must be made to the Subject Coordinator via SOLS <u>before the due date.</u>

Plagiarism

When you submit an assessment task, you are declaring the following

- It is your own work and you did not collaborate with or copy from others.
- You have read and understand your responsibilities under the University of Wollongong's policy on plagiarism.
- You have not plagiarised from published work (including the internet). Where you have used the work from others, you have referenced it in the text and provided a reference list at the end of the assignment.

Students must remember that:

Plagiarism will NOT be tolerated in this university.

Subject outline

If you need more information about the subject, please refer to the subject outline. It is available in Moodle.