

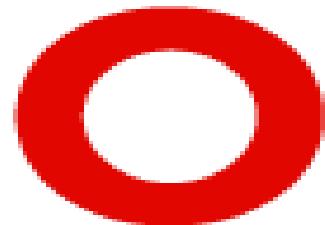
CSIT998

Professional Capstone Project

Subject Introduction

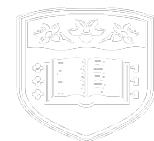
Dr. Huseyin Hisil
SCIT - Autumn 2025

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uow.info/safe-at-work



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

Subject Coordinators

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Fields of Research

- Cryptanalysis (factorization, discrete logarithm problem)
- Cryptography (asymmetric cryptosystems, elliptic curves, hyperelliptic curves, cryptographic pairings, post-quantum cryptography)
- Computational number theory, function fields
- Multiprecision arithmetic (large numbers and polynomials)
- Finite field arithmetic

Contacting with the subject coordinators

- Always include the subject, topic, student name-surname-number in the subject line:
 - E.g. **CSIT998 [Topic] [Name/Surname/Student number]**
- Clearly explain your inquiry in the main body of your email message
 - While we generally reply to emails within a couple of working days there will be times when other activities may take priority
- Use your **university account** for email
 - Please DO NOT ring or leave a message on the phone

Consultation Times

Consultation times

Dr. Hisil

Tuesday 14:30 - 16:30

Thursday 13:30 - 15:30

- Zoom/Webex online consultation (*email first*)
- Face to face (*booking via email*)
- Consultation hours are subject to change under some circumstances such as public holidays
- Better to describe what to discuss before you come (*time to think how to answer your questions*)



About this Subject

- This is an **annual** subject (*Autumn + Spring*)
- There are 2-hour lecture in the first **three** weeks and then meetings with your supervisor
- This subject has 6 credit peer semester. (*According to University policy, 1 credit point is equivalent to 2 hours of work including class attendance, per week. So, you should be doing about 12 hours of work a week on this subject in total.*)

Subject Learning Outcomes

1. Develop a project **proposal** and justify project **requirements**
2. Critically analyse **literature** and demonstrate the use of related technologies
3. Research and formulate an appropriate project **solution**
4. Demonstrate an **understanding** of professional practice and **ethical** considerations
5. Evaluate and analyse project **results**
6. **Communicate** project results in a professional manner

- THE SUBJECT IS YOUR COURSE CAPSTONE. IT IS ‘COMPLEX’ AND REQUIRES **MOSTLY INDEPENDENT LEARNING!**
- THIS SUBJECT IS ABOUT **INNOVATION, DESIGN, CREATIVITY...**
- THIS SUBJECT IS A **GROUP SUBJECT.**

Independent learners, Problem solvers, Effective communicators, Responsible

Assessment

No.	Assessment Name	Weight	Subject Learning Outcome	Task Due
A1	practice assignment	10%	SLO4	(Week 4)
A2	Project proposal	10%	SLO1, SLO2	(Week 11)
A3	Project report	70%	SLO1, SLO2, SLO3, SLO4, SLO5, SLO6	(Week 11)
A4	Project presentation	10%	SLO5, SLO6	(Week 13)

- A1, A2, A3: Must be completed with **Latex!** (You need to learn by yourself)
- Assessment details will be available on the subject's Moodle site
 - Instructions & Marking guide
 - Additional resources required (e.g. latex templates)
- Plagiarism in any assessment will result in a TECHNICAL FAIL!
- Always cite and reference sources that you have used

Assessments

- Groups seeking to submit material late should follow the standard university procedure. They will also need to keep the subject coordinator and their client/supervisor informed.
- Strictly !!! **ONE SUBMISSION PER GROUP !!!** for each assignment. All assessable documents must be submitted according to the format specified in lectures and/or in the instructions on UOW Moodle posted by the subject coordinator.
- Feedback on submitted assessable items will be provided electronically via the subject coordinator with additional feedback can be obtained from the coordinator and your supervisor in group meetings.
- Groups could keep agendas and minutes from all formal meetings along with a description of activities performed by each member.

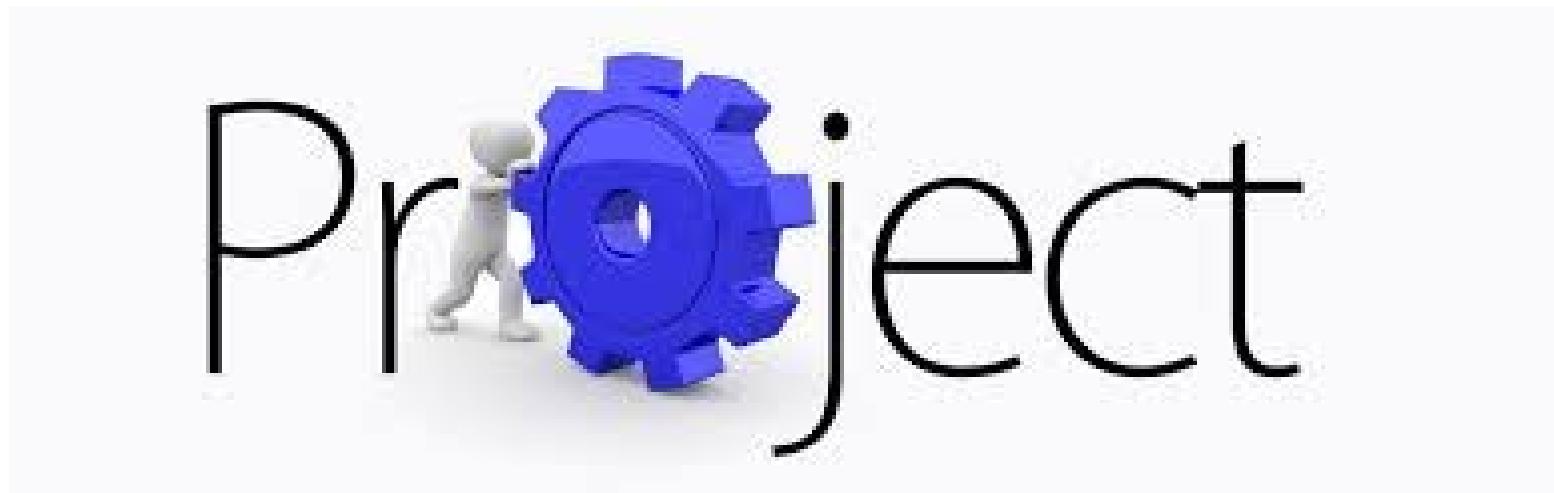
Role of subject coordinators and supervisors

- **Subject coordinator (me):**
 - Teach how to do a project in the **first three weeks**
 - Assign students to groups and help find supervisors
 - Marking (**A1, A2, A3, A4**)
 - Others as subject coordinator
- **Supervisors:**
 - Discuss and polish the project topic **from the fourth week**
 - Help polish assignments if possible
 - Marking (**A2, A3, A4**)

What will the Subject Coordinator do?

- Help you find a group if needed.
- Help you find a project if needed.
- Having meetings to discuss any related issue
- Supervise how to write a research proposal
- Supervise how to write a final report
- Supervise how to solve problems (**supervisor or coordinator**)
- Supervise how to prepare a presentation.

Keyword in this Subject:



What is Project?

A **project** is defined as a sequence of tasks that must be completed to attain a certain outcome.

Characteristics of a project



A clear start and end date



A project has boundaries



A project creates something new



A project is not business as usual

- A **clear start and end date** – There are projects that last several years but a project cannot go on forever. It needs to have a clear beginning, a definite end, and an overview of what happens in between.

What is Project?

A **project** is defined as a sequence of tasks that must be completed to attain a certain outcome.

Characteristics of a project



A clear start and end date



A project has boundaries



A project creates something new



A project is not business as usual

- A project delivers something new – Every project is unique, producing something that **did not previously exist (or not good enough)**. A project is a one-time, once-off activity, never to be repeated exactly the same way again.

What is Project?

A **project** is defined as a sequence of tasks that must be completed to attain a certain outcome.

Characteristics of a project



A clear start and end date



A project has boundaries



A project creates something new



A project is not business as usual

- A **project has boundaries** – A project operates within certain constraints of time, money, quality, and functionality. (budget, schedule, and resources)

What is Project?

A **project** is defined as a sequence of tasks that must be completed to attain a certain outcome.

Characteristics of a project



A clear start and end date



A project has boundaries



A project creates something new



A project is not business as usual

- A **project is not business as usual** – Projects are often confused with processes (different from a process work). A Process is a series of routine, predefined steps to perform a particular function, say, expense reimbursement approvals. (Ongoing, day-to-day activities)

What is Project?

A **project** is defined as a sequence of tasks that must be completed to attain a certain outcome.



- **People:** Who will be benefited from this project
- **Scope:** The goals of detailed benefits
- **Schedule:** The plan to complete this project
- **Resources:** budget, time, people, and resources

What is Project?

Example:

iTour --- Enhancing tourism experience by image retrieval.

This project innovatively presents a city to **tourists**. Each Australian city has attractions including landmarks, buildings, monuments, etc. Currently tourists must browse the Internet or brochures to learn their stories. This is inconvenient during a tour, especially for foreigners. This calls for a convenient and instant information access mechanism. Considering everyone has a smart phone with camera, a mobile application can be developed with our image recognition research. **By simply taking a picture of an attraction, tourists can instantly access its story, presented visually or verbally in their mother tongue.** Functions such as photo-sharing and local advertisements can be added.

What to do in this Subject?

- **Step 1:** Consider the people who will receive benefits.
Tourists
- **Step 2:** Describe the scenario how these people **currently do**.
Currently tourists must browse the Internet or brochures to learn their stories.
- **Step 3:** Describe the scenario how these people do **with your product or algorithms**.
By simply taking a picture of an attraction, tourists can instantly access its story, presented visually or verbally in their mother tongue.
- **Step 4:** Highlight differences or improvements from Step 2 to Step 3.
Convenient and instant information access mechanism including mother language.



How to Do?

- Moodle Site: **Resources**
- Moodle: **Project Discussions & Managements**
 - Discussions (Project topics)
 - Finding group members.
 - Note important information and process
 - Access previous discussions.

- Marks in the same group will be the same unless some members refused to work on project.
- If the average marks of a group are 70. Alice never worked and Bob did most. Then, marks will be taken from Alice to Bob, such as Alice=50 and Bob=80.

All projects in this subjects are related to algorithms and implementations.

- something (e.g. app) that **did not previously exist**.
- something (e.g. algorithm or app) that **is not good enough**.

➤ **Theory**: Improving an algorithm **(for future research)**

Techniques (80%) + Coding (20%)

➤ **Practice**: Developing a product **(for work)**

Techniques (20%) + Coding (40%)+ Idea (40%)

Via Moodle:

- Express your interest (theory or practice)
- Express the areas (AI, Big Data, Security) you like to do and attract other students to join your group.
- Find the group by yourself.
- Group size: **5-6 students (each group has a group leader)**
- Subject coordinator **can** add students to an existing group
 - If you cannot find a group, coordinator will add you to any group.

How to Have a Project?

- Find a project by yourself.
 - Subject coordinator can supervise you to find a project
 - Improving an existing project is also a project!
 - The project must be approved by the subject coordinator.
- Do projects provided by coordinator. (2-10 marks will be lost)

How to Have a Supervisor?

- Find the supervisor by yourself

<https://www.uow.edu.au/engineering-information-sciences/schools-entities/scit/our-people/>

Having the project and ask whether he/she can supervise. (You can also ask our staff to give you a project)

- Who are potential supervisors for Autumn 2025?

“chaun, chenc, elenavg, fren, fuchun, guoxin, hoa, huil, hhisil, jiey, jrg, johnle, baek, dong, jshen, jyan, khoa, leiw, nanl, partha, philipo, ping, rupengy, shixunh, hduong, tlhoang, txia, wanqing, win, xueqiao, yannan, yudi, zyu, wzong”@uow.edu.au

!!!!DO NOT BULK MAIL ALL SUPERVISORS!!!!

Group Leader

- Each team will require a **leader** for the project or each phase of it. The project leader will be responsible for the coordination of the design, analysis, review, implementation and background reading tasks performed by members of the group and **communicating** instructions from the supervisor to appropriate group members.
- The team leader is to ensure that team members **contribute equally** to the project.
- Any **problems** must be discussed with the project supervisor/coordinator **as soon as they arise**, NOT at a later stage when the problem cannot be resolved. Team members will co-operate to achieve a common goal.

Managing the subject

Dear Prospective CSIT998 (A125) Supervisors,

I wish you all a productive semester.

If you have new project proposals for CSIT998 (A125) Professional Capstone Project, please fill in the attached form and send to hhisil@uow.edu.au. It will be ideal if you could send your proposals by 11 March.

Please note that I have already uploaded earlier proposals for CSIT998 (A125) Moodle site as potential projects.

Students will soon start to interacting with you for project discussions. If & when you decide to supervise a new CSIT998 project, please ask your students to send me an email (hhisil@uow.edu.au) containing;

- the supervisor's name
- the group leader's name
- the group name (E.g. Guardian of Grid, MindMates, The Coderz) <case-sensitive>
- the title of project
- a list of all group members (name, surname, student number, email)

Once I receive an email about a new group formation from students, I will verify it with you via email. If verified, I will add these data to an excel file which will be available to all of us later for easier management.

I really appreciate your invaluable support in advance.

With my kind regards,
Huseyin.

Managing the subject

Group ID	Group Name	Project Title	Name Surname	Leader	StuNum	Stdudent Email	Supervisor	Supervisor's email
Group 01	Guardian of Grid	Secure Cloud Data Storage						
Group 01	Guardian of Grid	Secure Cloud Data Storage						
Group 01	Guardian of Grid	Secure Cloud Data Storage						
Group 01	Guardian of Grid	Secure Cloud Data Storage						
Group 01	Guardian of Grid	Secure Cloud Data Storage						
Group 01	Guardian of Grid	Secure Cloud Data Storage						

- The spreadsheet file will be public and shared through Moodle.
- Only the subject coordinator can edit the file.

END of LECTURE

- Check out Moodle
 - Find a Group!
 - Find a Project!
 - Find a Supervisor!
 - Manage your Project! (To be continued)
 - The ethics! (To be continued)
- Before Week 3
Before Week 5
Before Week 5