COURSE OUTLINE

SEC705 Digital Forensics 1

School: School of Science, Technology and Engineering

2022 | Semester 1

Online | ONLINE | You can do this course without coming onto campus.

Please go to usc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This online course will introduce digital forensic processes including seizure, acquisition, analysis, and reporting of digital evidence. You will learn how to identify and seize digital evidence and become familiar with the tools, techniques, and procedures employed by digital forensics examiners to acquire forensic images and protect and preserve electronically stored information. You will learn how to examine and analyse digital evidence. You will also learn how to reach logical conclusions about digital evidence and how to report and present digital evidence.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ONLINE			
Learning materials – Asynchronous learning material	2hrs	Week 1	12 times
Tutorial/Workshop 1 – Online workshop	2hrs	Week 1	12 times

1.3. Course Topics

Creation and verification of forensic images.

Safe evidence handling techniques.

iOS Devices: Overview, extraction techniques, data structures, and analysis.

Android Devices: Overview, extraction techniques, data structures, and analysis.

Expert report writing requirements and techniques.

2. What level is this course?

700 Level (Specialised)

Demonstrating a specialised body of knowledge and set of skills for professional practice or further learning. Advanced application of knowledge and skills in unfamiliar contexts.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Use decision making and problem solving to identify, analyse, and understand digital evidence and digital artefacts	Creative and critical thinker
2	Solve complex technology related crimes.	Empowered
3	Seize and secure digital evidence in a safe and admissible manner.	Ethical
4	Document and report on interactions with digital evidence; Identify and utilise the appropriate software and hardware tools to support an investigation.	Empowered
5	Identify and explain the types of specialised technical and investigative methodologies used in digital forensics.	Knowledgeable
6	Prepare and present digital forensic reports in accordance with ethical and evidentiary requirements.	Knowledgeable Ethical

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Must be enrolled in SC513 or SC704

5.2. Co-requisites

SEC701

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Using marking rubrics, students will participate in continuous peer and self-assessment tasks. Opportunities will be provided during tutorials for peer-review of responses to online tutorial questions.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Practical / Laboratory Skills	Individual	25%	300 words each approx. for 8 weeks.	Throughout teaching period (refer to Format)	Online Submission
All	2	Examination - not Centrally Scheduled	Individual	35%	3 hours	Week 10	Online Test (Quiz)
All	3	Report	Individual	40%	3000 words approx.	Exam Period	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Practical Exercises

GOAL:	The goal of this task is to develop the knowledge and technical skill necessary to undertake digital forensic examinations.
PRODUCT:	Practical / Laboratory Skills
FORMAT:	Students will be presented with a small image file as part of an ongoing case study and will identify and analyse artefacts on the image by applying techniques learned in the weekly tutorials in order to respond to short-answer questions regarding user-specific computer use and data on the image file. Students will be required to submit practical exercises weekly for 8 weeks (weeks 2 -9).

CRITERIA:

No.		Learning Outcome assessed
1	Use of decision making and problem-solving techniques	1 2
2	Application of tradecraft skills	3 4
3	Review and critique arguments to form strong expert opinions	1 6
4	Identify and explain various digital forensic processes and methodologies	5

All - Assessment Task 2: Exam

GOAL:	Demonstrate understanding of digital forensic and investigation theory.
PRODUCT:	Examination - not Centrally Scheduled
FORMAT:	Students will sit an online exam.

CRITERIA:

No.		Learning Outcome assessed
1	Use of decision making and problem-solving techniques	1 4
2	Identification and analysis forensic artefacts	2 4
3	Demonstrate a strong knowledge of digital forensic processes	5

All - Assessment Task 3: Forensic Examination Report

GOAL:	Develop technical documenting and reporting skills as well as affirm and build upon the technical competency developed throughout the course
PRODUCT:	Report
FORMAT:	Individual You will be provided with digital examination media and a case study. You will play the role of a digital forensic examiner within the case study scenario which will provide a clearly defined scope for their examination and reporting. The final product should include a computer examination report and any ancillary files to be produced within the scope of the examination.

CRITERIA:

No.		Learning Outcome assessed
1	Apply digital forensic methodologies to seize, secure, and document electronic evidence	3 5
2	Application of complex technical decision making and problem-solving skills	1
3	Analysis of various encoding schemes, file types, and user applications	4
4	Interpretation of digital forensic analysis to identify events and user behaviours	2
5	Production of digital forensic reports in accordance with ethical and evidentiary requirements	6

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Bill Nelson,Amelia Phillips,Christopher Steuart	0	Guide to Computer Forensics and Investigations	n/a	n/a

8.2. Specific requirements

This is an online course and will require access to a computer and the internet for at least 12 hours per week. The computer must have a modern processor and at least 200GB of storage available. A dedicated graphics card and SSD or faster storage is highly recommended. You may be required to download files in excess of 50GB.

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%
The course is graded using the Standard Grading scale
You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:
- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: 07 5430 1168 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call 07 5430 1226 or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the Learning Advisers web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to Student Hub, email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, AccessAbility Services can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to Student Hub, email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.10. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au