COMP2310
Digital Forensics
Session 1, Weekday attendance, North Ryde 2020
Dept of Computing

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General Information

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Credit points
10

Prerequisites
(COMP1010 or COMP125) and (COMP1350 or ISYS114)

Corequisites
COMP2250 or COMP247

Co-badged status

Unit description
This unit provides an introduction to digital forensics and incident response methods, techniques and tools. Strong emphasis is given to ethics, the laws and procedures as students are exposed to forensics techniques used to collect and recover data. Students are taught how to conduct digital investigations following the process of preserving, acquiring, analysing and presenting digital evidence.

Important Academic Dates
Information about important academic dates including deadlines for withdrawing from units are available at https://students.mq.edu.au/important-dates

Learning Outcomes

ULO1: Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
ULO2: Develop and follow suitable processes when performing incident response and conducting digital forensics investigations.
ULO3: Use appropriate tools and techniques to collect and recover data from a variety of digital sources.
ULO4: Communicate effectively the results of an investigation following professional standards.
General Assessment Information

Late Submission

No extensions will be granted without an approved application for Special Consideration. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late. For example, 25 hours late in submission for an assignment worth 10 marks – 20% penalty or 2 marks deducted from the total. No submission will be accepted after solutions have been posted.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly Tasks</td>
<td>10%</td>
<td>Yes</td>
<td>Weekly</td>
</tr>
<tr>
<td>Assignment 1</td>
<td>15%</td>
<td>No</td>
<td>Week 7</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>15%</td>
<td>No</td>
<td>Week 12</td>
</tr>
<tr>
<td>Module Exam #1</td>
<td>20%</td>
<td>No</td>
<td>Week 5</td>
</tr>
<tr>
<td>Module Exam #2</td>
<td>20%</td>
<td>No</td>
<td>Week 9</td>
</tr>
<tr>
<td>Module Exam #3</td>
<td>20%</td>
<td>No</td>
<td>Week 13</td>
</tr>
</tbody>
</table>

Weekly Tasks

Assessment Type: Quiz/Test
Indicative Time on Task: 5 hours
Due: Weekly
Weighting: 10%

This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Each week, a set of exercises will be available online. Some require written submissions, while some are multiple choice. Your solutions should be submitted electronically via iLearn before the deadline specified in the text.

On successful completion you will be able to:

- Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
- Develop and follow suitable processes when performing incident response and conducting digital forensics investigations.
Use appropriate tools and techniques to collect and recover data from a variety of digital sources.

Communicate effectively the results of an investigation following professional standards.

Assignment 1
Assessment Type: Project
Indicative Time on Task: 7 hours
Due: Week 7
Weighting: 15%

This assignment deals with the recovery of digital evidence and is due on week 7. The assignment is to be submitted via iLearn.

On successful completion you will be able to:

- Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
- Use appropriate tools and techniques to collect and recover data from a variety of digital sources.
- Communicate effectively the results of an investigation following professional standards.

Assignment 2
Assessment Type: Project
Indicative Time on Task: 8 hours
Due: Week 12
Weighting: 15%

This group assignment deals with the response to an incident. It involves following defined procedures to recover and present evidence. It features the submission of a report and a presentation. It is due on week 12. The assignment is to be submitted via iLearn.

On successful completion you will be able to:

- Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
- Develop and follow suitable processes when performing incident response and conducting digital forensics investigations.
- Use appropriate tools and techniques to collect and recover data from a variety of digital sources.
- Communicate effectively the results of an investigation following professional standards.
Module Exam #1
Assessment Type: Examination
Indicative Time on Task: 10 hours
Due: Week 5
Weighting: 20%

A 50 minutes long written examination worth 20% that will be held in week 5 during practical class. This will test your understanding of material covered in weeks 1 to 4.

On successful completion you will be able to:
• Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
• Develop and follow suitable processes when performing incident response and conducting digital forensics investigations.
• Communicate effectively the results of an investigation following professional standards.

Module Exam #2
Assessment Type: Examination
Indicative Time on Task: 10 hours
Due: Week 9
Weighting: 20%

A 50 minutes long written examination worth 20% that will be held in week 9 during practical class. This will test your understanding of material covered in weeks 5 to 8.

On successful completion you will be able to:
• Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
• Use appropriate tools and techniques to collect and recover data from a variety of digital sources.
• Communicate effectively the results of an investigation following professional standards.

Module Exam #3
Assessment Type: Examination
Indicative Time on Task: 10 hours
Due: Week 13
Weighting: 20%

A 50 minutes long written examination worth 20% that will be held in week 13 during practical class. This will test your understanding of material covered in weeks 9 to 12.
On successful completion you will be able to:

- Adhere to highest ethical standards, obey the laws and follow procedures at all times when collecting and dealing with digital evidence.
- Develop and follow suitable processes when performing incident response and conducting digital forensics investigations.
- Use appropriate tools and techniques to collect and recover data from a variety of digital sources.
- Communicate effectively the results of an investigation following professional standards.

1 If you need guidance or support to understand or complete this type of assessment, please contact the Learning Skills Team

2 Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

COMPUTING FACILITIES

Please note that COMP2310 is a BYOD (Bring Your Own Device). You will be expected to bring your own laptop computer (Windows, Mac or Linux) to the workshop, install and configure the required software, and incorporate secure practices into your daily work (and play!) routines.

CLASSES

Each week you should complete any assigned readings and review the lecture slides in order to prepare for the lecture. There are three hours of lectures and a one-hour workshop every week. The hands-on exercises in works help to reinforce concepts introduced during the lectures. You should have chosen a practical on enrollment. You will find it helpful to read the workshop instructions before attending - that way, you can get to work quickly! For details of days, times and rooms consult the timetables webpage.

Note that Workshops commence in week 1.

You should have selected a practical at enrollment. Please note that you will be required to submit work every week. Failure to do so may result in you failing the unit or being excluded from the exam.

DISCUSSION BOARDS

This unit makes use of discussion boards hosted within iLearn. Please post questions there; they are monitored by the staff on the unit.
RECOMMENDED TEXTS


TECHNOLOGY USED

iLearn

iLearn is a Learning Management System that gives you access to lecture slides, lecture recordings, forums, assessment tasks, instructions for practicals, discussion forums and other resources.

Unit Schedule

The topics covered in this unit are as follows:

| Module 1 (Weeks 1 to 4) | • Computer Forensics and Investigation Processes  
| | • Understanding Computing Investigations  
| | • The Investigator's Office and Laboratory  
| | • Data Acquisitions  
| | • Processing Crime and Incident Scenes |

| Module 2 (Weeks 5 to 8) | • Working with Windows and DOS Systems  
| | • Computer Forensics Tools  
| | • File Systems  
| | • Recovering Graphics Files  
| | • Recovering data from memory/hardware  
| | • Digital Forensics Analysis and Validation |

| Module 3 (Weeks 9 to 13) | • Virtual Machines, Network Forensics, and Live Acquisitions  
| | • E-mail Investigations  
| | • Cell Phone and Mobile Device Forensics  
| | • Report Writing for High-Tech Investigations  
| | • Expert Testimony in High-Tech Investigations  
| | • Ethics and High-Tech Investigations |

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:
Unit Guide COMP2310 Digital Forensics

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy (Note: The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)

Students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser
Student Enquiry Service
For all student enquiries, visit Student Connect at ask.mq.edu.au
If you are a Global MBA student contact globalmba.support@mq.edu.au

Equity Support
Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

IT Help
For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.
When using the University’s IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.