COMP2310
Digital Forensics
Session 1, In person-scheduled-weekday, North Ryde 2022

School of Computing

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General Information

<table>
<thead>
<tr>
<th>Unit convenor and teaching staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muhammad Ikram</td>
</tr>
<tr>
<td><a href="mailto:muhammad.ikram@mq.edu.au">muhammad.ikram@mq.edu.au</a></td>
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<td>Hassan Asghar</td>
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<td><a href="mailto:hassan.asghar@mq.edu.au">hassan.asghar@mq.edu.au</a></td>
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<table>
<thead>
<tr>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
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<table>
<thead>
<tr>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>(COMP1010 or COMP125) and (COMP1350 or ISYS114)</td>
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<table>
<thead>
<tr>
<th>Corequisites</th>
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<tbody>
<tr>
<td>COMP2250 or COMP247</td>
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<table>
<thead>
<tr>
<th>Co-badged status</th>
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<table>
<thead>
<tr>
<th>Unit description</th>
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<tbody>
<tr>
<td>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.</td>
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Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at [https://www.mq.edu.au/study/calendar-of-dates](https://www.mq.edu.au/study/calendar-of-dates)

Learning Outcomes

On successful completion of this unit, you will be able to:

- **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

Online quizzes, in-class activities, or scheduled tests and exam must be undertaken at the time indicated in the unit guide. Should these activities be missed due to illness or misadventure, students may apply for Special Consideration.

All other assessments must be submitted by 9:00 pm on their due date.

Late Submissions

Late submissions will be accepted but will incur a penalty unless there is an approved Special Consideration request. A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

Assessment Tasks

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

Module Exam #1

Assessment Type 1: Examination
Indicative Time on Task 2: 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.

**Weekly Tasks**

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 15 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 2**

Assessment Type 1: Project
Indicative Time on Task 2: 15 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.

**Assignment 1**

Assessment Type: Project
Indicative Time on Task: 15 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.

**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.

Module Exam #2

Assessment Type 1: Examination
Indicative Time on Task 2: 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.

1 If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

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

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 two 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 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

<table>
<thead>
<tr>
<th>Module 1</th>
<th>topic</th>
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<tbody>
<tr>
<td>(Weeks 1 to 4)</td>
<td>- Computer Forensics and Investigation Processes</td>
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<tr>
<td></td>
<td>- Understanding Computing Investigations</td>
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<tr>
<td></td>
<td>- The Investigator's Office and Laboratory</td>
</tr>
<tr>
<td></td>
<td>- Data Acquisitions</td>
</tr>
<tr>
<td></td>
<td>- Processing Crime and Incident Scenes</td>
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</tbody>
</table>
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
• Cloud 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://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

• Academic Appeals Policy
• Academic Integrity Policy
• Academic Progression Policy
• Assessment Policy
• Fitness to Practice Procedure
• Assessment Procedure
• Complaints Resolution Procedure for Students and Members of the Public
• Special Consideration Policy

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

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct
Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/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

Academic Integrity
At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

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

The Writing Centre
The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support
Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues

Student Enquiries
Got a question? Ask us via AskMQ, or contact Service Connect.
IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/](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.