



# ACCG2067

## Foundations of Forensic and Data Analytics

Session 1, In person-scheduled-weekday, North Ryde 2023

*Department of Accounting and Corporate Governance*

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## General Information

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Credit points

10

Prerequisites

50cp at 1000 level or above

Corequisites

Co-badged status

Unit description

This unit introduces students to the practice and procedures of forensic accounting and the important role played by the forensic accountant in the legal and business environment. Students will be exposed to the theory and principles of application, of data analytics skills and techniques in relation to fraud detection, fraud and risk exposures, dispute resolution, cyber and financial crimes and legal obligations and processes. The unit aims to develop in students an appreciation of how the application of forensic and data analytics skills and strategies are essential to the role of the forensic accountant as an expert witness and professional advisor.

## 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>

## Learning Outcomes

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

- ULO1:** Understand the role of forensic accounting and its relationship to the legal system, including the legal, ethical and professional obligations of forensic accountants.
- ULO2:** Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process.
- ULO3:** Develop awareness of issues and key principles of professional digital forensic practice, including chain of custody and best practice procedures.

**ULO4:** Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting.

**ULO5:** Recognise mechanisms to uncover or recover evidence from digital devices to support litigation and investigations.

## General Assessment Information

*Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The above penalties do not apply to class assessments assigned for 'Assessed Coursework', which will receive a grade of '0' unless submitted in the assigned class.*

*For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for **Special Consideration**.*

## Assessment Tasks

Name	Weighting	Hurdle	Due
<b>Class Test</b>	25%	No	Week 7
<b>Group Assignment</b>	45%	No	Week 13
<b>Assessed Coursework</b>	30%	No	Week 3, Week 4, Week 5, Week 9, Week 10, Week 11, Week 12

### Class Test

Assessment Type **1**: Quiz/Test

Indicative Time on Task **2**: 10 hours

Due: **Week 7**

Weighting: **25%**

The purpose of the diagnostic test is to provide students with feedback on their knowledge and application of the material using a formative assessment task early in the session. The test will be marked based on the appropriate application of knowledge and skills to short answer and case based questions.

On successful completion you will be able to:

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- Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process.
- Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting.

## Group Assignment

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **Week 13**

Weighting: **45%**

Students are required to complete a group report assignment consisting of individual and group components. Details regarding the nature of the assignment and its requirements will be made available on iLearn early in the session. The properties on which the assessment task is will be assessed are as follows:

Application of knowledge and skills Quality of reasoning and appropriate application of data analytic techniques Quality of communication and presentation of assignment

The Unit Assessment Guide provides standards and a grading rubric for this assessment task.

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- Develop awareness of issues and key principles of professional digital forensic practice, including chain of custody and best practice procedures.
- Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting.
- Recognise mechanisms to uncover or recover evidence from digital devices to support litigation and investigations.

## Assessed Coursework

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 14 hours

Due: **Week 3, Week 4, Week 5, Week 9, Week 10, Week 11, Week 12**

Weighting: **30%**

Students are required to complete regular assessed coursework activities consisting of seven homework submissions. Details on homework questions coverage will be provided in the Unit Weekly Guide available on iLearn. Homework submissions activities are designed to encourage

students to actively engage with the Unit material and to provide students with timely feedback on their performance throughout the session. Homework submissions will be marked on the basis of original effort. The marking criteria to be applied to homework submissions is provided in the Unit Assessment Guide available on iLearn. Each homework submission is equally weighted and the best 5 of 7 homework submissions will count towards your homework submission marks.

On successful completion you will be able to:

- Understand the role of forensic accounting and its relationship to the legal system, including the legal, ethical and professional obligations of forensic accountants.
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- Develop awareness of issues and key principles of professional digital forensic practice, including chain of custody and best practice procedures.
- Recognise mechanisms to uncover or recover evidence from digital devices to support litigation and investigations.

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<sup>1</sup> 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.

<sup>2</sup> 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 refer to the information on iLearn.

## Unit Schedule

Week	Learning Objective	Content	Reading
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1	LO2: Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process	<p>Introduction to Fraud</p> <p>Types of Fraud</p> <p>The Need for Analysis Tools</p>	<p><i>Forensic Accounting and Fraud Investigation for Non-Experts</i>, H. Silverstone and M. Sheetz, Chapter 2, Fraud in Society</p> <p><i>Forensic Accounting and Fraud Investigation for Non-Experts</i>, H. Silverstone and M. Sheetz, Chapter 12, Analysis Tools for Investigators</p>
2	LO2: Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process	<p>Fraud Theories</p> <p>Introduction to Financial Analysis</p> <p>Key Ratios</p> <p>Data Mining as an Analysis Tool</p>	<p>Fraud theories &amp; White-collar crimes</p> <p><a href="https://researchleap.com/fraud-theories-white-collar-crime-s-lessons-nigerian-banking-industry/">https://researchleap.com/fraud-theories-white-collar-crime-s-lessons-nigerian-banking-industry/</a></p> <p><i>Forensic Accounting and Fraud Investigation for Non-Experts</i>, H. Silverstone and M. Sheetz, Chapter 5 Fundamental Principles of Financial Analysis</p>

3	<p>LO1: Understand the role of forensic accounting and its relationship to the legal system, including the legal, ethical and professional obligations of forensic accountants</p>	<p>Overview of the Australian Legal System</p> <p>How Law is Made</p> <p>What the Law Deals With Government in Australia</p> <p>The Legislature</p> <p>The Executive</p> <p>The Judiciary</p> <p>The Legal Profession</p> <p>Hearsay Opinion</p> <p>Standard of Proof</p> <p>Specialised Knowledge</p> <p>Fields of Expertise</p> <p>Expert Evidence and Hearsay</p> <p>Certificates of Expert Evidence</p>	<p>Australian legal system [online]. HOT TOPICS, No. 79, 2011: 1-28</p> <p>Evidence Act 1995 (Cth) extracts:</p> <ul style="list-style-type: none"> <li>• Part 3.2 Hearsay: s. 59, s. 60, s. 63, s. 64, s. 69, s. 71</li> <li>• Part 3.3 Opinion: s. 76, s. 78, s. 79</li> <li>• Part 4.1 Standard of Proof: s. 140, s. 141</li> </ul>
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4	LO1: Understand the role of forensic accounting and its relationship to the legal system, including the legal, ethical and professional obligations of forensic accountants	The Role of The Expert	<i>Expert evidence</i> . (n.d.), Chapter 2 - Common Law Evidentiary Rules (selected sections only)
		Existence of Formal Qualifications	<i>Expert evidence</i> . (n.d.), Chapter 3 - Statutory Evidentiary Rules (selected sections only)
		Australia's Uniform Evidence Legislation	R. Hoffman, W. Finney, Ph. Cox & K. Cooper, <i>The Accountant as an Expert Witness: A basic guide to forensic accounting</i> - Chapter 2: Overview - the legal framework (CCH Australia Limited, 2007)
		The Opinion Rule	Schedule 7 – Expert Witness Code of Conduct Uniform Civil Procedure Rules 2005 (NSW)
		The Admissibility Regime	
		Duties and Responsibilities	
		The Expert's Testimony	
		Rules of Evidence	
		Expert Witness Code of Conduct	



5	LO2: Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process	<p>APES 215</p> <p>Investigations: planning the scope and structure</p> <p>Case management</p> <p>Reporting the findings</p> <p>Closing the investigation</p>	<p>APES215</p> <p><i>Forensic Accounting</i>, R. Rufus and others, Chapter 7 Conducting a Fraud Investigation</p> <p><i>Corruption in Focus</i>, Crime and Corruption Commission, Chapter 6 Planning an investigation (2016)</p>
6	LO3: Develop awareness of issues and key principles of professional digital forensic practice, including chain of custody and best practice procedures	<p>Critical Steps in Gathering Evidence</p> <p>Chain of Custody</p> <p>Evidence Created</p> <p>Introduction to Digital Forensics</p>	<p><i>A Guide to Forensic Accounting Investigation</i>, W. Kenyon and P. D. Tilton, Chapter 10, Building a Case: Gathering and Documenting Evidence</p> <p><i>Essentials of Forensic Accounting</i>, M. A. Crain and others, Chapter 11, Digital Forensics</p>
7	LO4: Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting	<p>Payroll Fraud</p> <p>Fraud Risk Structure</p> <p>Data Analysis</p> <p>Data mining planning</p>	<p><i>The Fraud Audit: Responding to the Risk of Fraud in Core Business Systems</i>, L. W. Vona, Chapter 12, Payroll Fraud</p>

8	LO4: Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting	Revenue Misstatement  Inventory fraud  Fraud risk structure  Data analysis  Data mining planning	<i>The Fraud Audit: Responding to the Risk of Fraud in Core Business Systems</i> , L. W. Vona, Chapter 13, Revenue Misstatement  <i>The Fraud Audit: Responding to the Risk of Fraud in Core Business Systems</i> , L. W. Vona, Chapter 14, Inventory Fraud
9	LO4: Understand the theory, and principles of application, of data analytics skills and techniques to forensic accounting	Fraud Risk Structure  Disbursement Fraud  Data Analysis  Data mining planning	<i>The Fraud Audit: Responding to the Risk of Fraud in Core Business Systems</i> , L. W. Vona, Chapter 10, Disbursement Fraud
10	LO3: Develop awareness of issues and key principles of professional digital forensic practice, including chain of custody and best practice procedures	Computers  Forensic IT  Digital forensics lab  Software used by Forensic IT  Conducting computer forensics investigation	PricewaterhouseCoopers, Electronic evidence - What if there's no paper trail? (2008)  J. Brozovsky and J. Luo, Digital forensics: a new challenge for accounting professionals (Strategic Finance, 2013)  R. Kardell, Analysis of digital financial data (FBI Law Enforcement Bulletin, 2011)

11	LO5: Recognise mechanisms to uncover or recover evidence from digital devices to support litigation and investigations.	<p>Scientific Method and Digital Forensics</p> <p>Digital Forensic Analysis</p> <p>Data Gathering And Observation</p> <p>Conclusions and Reporting</p>	<p><i>Handbook of Digital Forensics and Investigation</i>, E. Casey, Chapter 2, Forensic Analysis</p>
12	LO5: Recognise mechanisms to uncover or recover evidence from digital devices to support litigation and investigations.	<p>Introduction to electronic discovery</p> <p>Case management</p> <p>Identification of electronic data</p> <p>Forensic Preservation of data</p> <p>Data Processing</p> <p>Production of Electronic Data</p>	<p><i>Handbook of Digital Forensics and Investigation</i>, E. Casey, Chapter 3, Electronic Discovery</p>

13	LO2: Identify indicators of fraudulent activity and develop awareness of investigative procedures, including an appreciation of the role of evidence in the litigation process	Fraud Detection	<i>Financial Investigation and Forensic Accounting</i> , G. A. Manning, Chapter 24, Audit Programs
		Interpreting Potential Red Flags	<i>A Guide to Forensic Accounting Investigation</i> , W. Kenyon and P. D. Tilton, Chapter 13, Potential Red Flags and Fraud Detection Techniques
		Professional Scepticism	
		Risk Factors	

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.mq.edu.au) (<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) (<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) (<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](https://ask.mq.edu.au) or if you are a Global MBA

student contact [globalmba.support@mq.edu.au](mailto: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 Advocacy](#) provides independent advice on MQ policies, procedures, and processes

## 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.