



PICT8049

Australia and Cyber Intelligence

Session 2, In person-scheduled-weekday, North Ryde 2024

Department of Security Studies and Criminology

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General Information

Unit convenor and teaching staff

Jeffrey Foster

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Credit points

10

Prerequisites

Admission to MPICT or MCP ICT or GradDipPICT or GradDipCPICT or GradCertCPICT or MPICTMIntSecSt or MCP ICTMIntSecSt or MIntSecStud or GradDipIntSecStud or GradCertIntSecStud or MCyberSec or MSecStrategicStudMCyberSec or MIntellMCyberSec or MCyberSecMCTerrorism or MCyberSecMCrim or Master of Cyber Security Analysis or admission to BSecStudMCyberSecAnalysis or MInfoTechCyberSec or MInfoTechNetWork

Corequisites

Co-badged status

Unit description

Cyberspace has become a major site for different forms of warfare and coercion, ranging from cyber disruption, through information compromise, all the way to covert information operations on a national level. In this unit students learn how robust cyber intelligence can be used to enhance the often-reactive posture of cyber security. This includes understanding the role of cyber intelligence and counterintelligence within the broad, integrated configuration of cyber-security. Students will learn fundamental intelligence collection and analysis principles and apply them to a cyber-security context.

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: Critique contemporary literature relating to the concepts of cyber intelligence

ULO2: Demonstrate higher order communication skills including the ability to formulate sustained, persuasive and original written and oral arguments

ULO3: Model academic research skills, particularly the ability to select sources appropriately to integrate knowledge from diverse sources, to critically evaluate its

significance and relevance, synthesise material and present finding logically, rationally and lucidly

ULO4: Model intelligence collection and analysis skills, particularly the ability to select and evaluate sources and produce an effective intelligence assessment.

ULO5: Evaluate how the intelligence function fits within the dynamic national and internal cybersecurity context.

Assessment Tasks

| Name | Weighting | Hurdle | Due |
|----------------------------------|-----------|--------|--|
| <u>Intelligence Writeup</u> | 20% | No | 8 Oct, @ 6PM |
| <u>Threat report</u> | 25% | No | 1 Nov, @ 11:59PM |
| <u>Quiz</u> | 30% | No | Sundays @ 11:59PM Weeks 4, 9 & 12 |
| <u>Participation</u> | 10% | No | Sundays @ 11:59PM, various weeks |
| <u>Intelligence Presentation</u> | 15% | No | In-person: Various weeks. Online: 10 Sep @ 6PM |

Intelligence Writeup

Assessment Type ¹: Report

Indicative Time on Task ²: 18 hours

Due: **8 Oct, @ 6PM**

Weighting: **20%**

A writeup of your chosen technique on what it does, and how to defend against it.

On successful completion you will be able to:

- Critique contemporary literature relating to the concepts of cyber intelligence
- Demonstrate higher order communication skills including the ability to formulate sustained, persuasive and original written and oral arguments
- Model academic research skills, particularly the ability to select sources appropriately to integrate knowledge from diverse sources, to critically evaluate its significance and relevance, synthesise material and present finding logically, rationally and lucidly
- Model intelligence collection and analysis skills, particularly the ability to select and evaluate sources and produce an effective intelligence assessment.

Threat report

Assessment Type ¹: Report

Indicative Time on Task ²: 25 hours

Due: **1 Nov, @ 11:59PM**

Weighting: **25%**

An open-source intelligence collection on a relevant target culminating in a structured written report.

On successful completion you will be able to:

- Critique contemporary literature relating to the concepts of cyber intelligence
- Demonstrate higher order communication skills including the ability to formulate sustained, persuasive and original written and oral arguments
- Evaluate how the intelligence function fits within the dynamic national and internal cybersecurity context.

Quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Sundays @ 11:59PM Weeks 4, 9 & 12**

Weighting: **30%**

3 X Quiz covering the prescribed literature in the course.

On successful completion you will be able to:

- Critique contemporary literature relating to the concepts of cyber intelligence
- Model academic research skills, particularly the ability to select sources appropriately to integrate knowledge from diverse sources, to critically evaluate its significance and relevance, synthesise material and present finding logically, rationally and lucidly
- Evaluate how the intelligence function fits within the dynamic national and internal cybersecurity context.

Participation

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 7 hours

Due: **Sundays @ 11:59PM, various weeks**

Weighting: **10%**

Participation throughout session, and during presentations

On successful completion you will be able to:

- Critique contemporary literature relating to the concepts of cyber intelligence
- Evaluate how the intelligence function fits within the dynamic national and internal cybersecurity context.

Intelligence Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 16 hours

Due: **In-person: Various weeks. Online: 10 Sep @ 6PM**

Weighting: **15%**

A group presentation on a specific tactic, and sub-techniques, used by APTs following the Mitre ATT&CK framework

On successful completion you will be able to:

- Demonstrate higher order communication skills including the ability to formulate sustained, persuasive and original written and oral arguments
- Model intelligence collection and analysis skills, particularly the ability to select and evaluate sources and produce an effective intelligence assessment.

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

Lectures will be live for in-person students on Tuesdays from 6pm-8pm. Lectures will be recorded and made available via Echo360 immediately after the lecture for online students.

All readings and resources will be made available via iLearn.

UNIT REQUIREMENTS AND EXPECTATIONS

You should spend an average of 12 hours per week on this unit. This includes listening to lectures prior to seminar or tutorial, reading weekly required materials as detailed in iLearn, participating in iLearn discussion forums and preparing assessments.

Internal students are expected to attend all seminar or tutorial sessions, and external students are expected to make significant contributions to on-line activities.

In most cases students are required to attempt and submit all major assessment tasks in order to pass the unit.

REQUIRED READINGS

The citations for all the required readings for this unit are available to enrolled students through the unit iLearn site, and at Macquarie University's library site. Electronic copies of required readings may be accessed through the library or will be made available by other means.

TECHNOLOGY USED AND REQUIRED

Computer and internet access are essential for this unit. Basic computer skills and skills in word processing are also a requirement.

This unit has an online presence. Login is via: <https://ilearn.mq.edu.au/>

Students are required to have regular access to a computer and the internet. Mobile devices alone are not sufficient.

Information about IT used at Macquarie University is available at http://students.mq.edu.au/it_services/

SUBMITTING ASSESSMENT TASKS

All text-based assessment tasks are to be submitted, marked and returned electronically. This will only happen through the unit iLearn site.

Assessment tasks must be submitted as a MS word document by the due date.

Most assessment tasks will be subject to a 'Turnitin' review as an automatic part of the submission process.

The granting of extensions is subject to the university's Special Consideration Policy. Extensions will not be granted by unit conveners or tutors, but must be lodged through Special Consideration: <https://students.mq.edu.au/study/my-study-program/special-consideration>

LATE SUBMISSION OF ASSESSMENT TASKS

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 mark of, 0 (zero) will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical issue.

This late penalty will apply to non-timed sensitive assessment (incl essays, reports, posters, portfolios, journals, recordings etc). Late submission of time sensitive tasks (such as tests/exams, performance assessments/presentations, scheduled practical assessments/labs etc) will only be addressed by the unit convenor in a Special consideration application. Special Consideration outcome may result in a new question or topic

WORD LIMITS FOR ASSESSMENT TASKS

Stated word limits include footnotes and footnoted references, but not bibliography, or title page.

Word limits can generally deviate by 10% either over or under the stated figure.

If the number of words deviates from the limit by more than 10%, then penalties will apply. These penalties are 5% of the awarded mark for every 100 words deviation from the word limit. If a paper is 300 words over, for instance, it will lose $3 \times 5\% = 15\%$ of the total mark awarded for the assignment. This percentage is taken off the total mark, i.e. if a paper was graded at a credit (65%) and was 300 words over, it would be reduced by 15 marks to a pass (50%).

The application of this penalty is at the discretion of the course convener.

REASSESSMENT OF ASSIGNMENTS DURING THE SEMESTER

Macquarie University operates a Final Grade Appeal procedure as part of the Assessment policy in cases where students feel their work was graded inappropriately: <https://policies.mq.edu.au/document/view.php?id=277>

In accordance with the Grade Appeal procedure, individual works are not subject to regrading.

STAFF AVAILABILITY

Department staff will endeavour to answer student enquiries in a timely manner. However, emails or iLearn messages will not usually be answered over the weekend or public holiday period.

Students are encouraged to read the Unit Guide and look at instructions posted on the iLearn site before sending email requests to staff.

Unit Schedule

*Note: class schedule may change at any time with prior notice from UC.

| Module | Date | Topic | Assessments | Primary Reading |
|--------|-------------|---|--------------|---|
| 1 | 23 Jul 2024 | Intro & Overview | | |
| 2 | 30 Jul 2024 | Cyber Killchain/ MITRE ATT&CK/ Using AI in assignments | | Att&ck Design and Philosophy |
| 3 | 6 Aug 2024 | Models of Cyber Security/Pyramid of Pain/Maturity | | <p>Preface – Overview of the NIST Framework (Cybersecurity Risk Management)</p> <p>ISO27001 in a Windows® Environment: The best practice handbook for a Microsoft® Windows® environment, Second Edition (Chapter 3)</p> <p>https://www.cyber.gov.au/resources-business-and-government/essential-cyber-security/essential-eight/essential-eight-explained</p> <p>https://www.cyber.gov.au/resources-business-and-government/essential-cyber-security/essential-eight/essential-eight-maturity-model</p> |
| 4 | 13 Aug 2024 | Introduction to OPSEC and the Dark web | Quiz 1 | <p>BOOK CHAPTER</p> <p><u>Understanding Reactive, Proactive, and Operational Security</u></p> <p>Ozkaya, Erdal</p> <p>United Kingdom: Packt Publishing</p> <p>Cybersecurity - The Beginner's Guide, 2019, p.1-2</p> |
| 5 | 20 Aug 2024 | Cyber Policy in Australia and beyond | Pres. Week 1 | <p>https://www.homeaffairs.gov.au/cyber-security-subsite/files/2023-cyber-security-strategy.pdf</p> <p>https://resourcehub.bakermckenzie.com/en/resources/global-data-privacy-and-cybersecurity-handbook/asia-pacific/australia/topics/key-data-privacy-and-cybersecurity-laws</p> |

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|--------------------|-------------|-------------------------|---------------------------------------|--|
| 6 | 27 Aug 2024 | Cyber Security Metrics | Pres. Week 2 | Ch. 3 Cyber Security Objectives in Cyber security Policy Guidebook |
| 7 | 3 Sep 2024 | The Rise of AI | Pres. Week 3 | TBD |
| 8 | 10 Sep 2024 | TBD | Pres. Week 4/All online presentations | TBD |
| InterSession Break | 17 Sep 2024 | | | |
| InterSession Break | 24 Sep 2024 | | | |
| 9 | 1 Oct 2024 | Cyber Intelligence I | Pres. Week 5/Quiz 2 | TBD |
| 10 | 8 Oct 2024 | Cyber Intelligence II | Pres. Week 6/Writeup Due (20%) | TBD |
| 11 | 15 Oct 2024 | Cyber Intelligence III | Pres. Week 7 | TBD |
| 12 | 22 Oct 2024 | Cyber Intelligence IV | Pres. Group 8/Quiz 3 | TBD |
| 13 | 29 Oct 2024 | Wrap-Up/Final Questions | Threat Report Due (25%) | Wrap-Up/Final Questions |

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 connect.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 Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), 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/.

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.

Unit information based on version 2024.02 of the [Handbook](#)