PICT8080

Cyber Conflict, Cyber Espionage and Information Warfare

Session 1, Weekday attendance, North Ryde 2021

Department of Security Studies and Criminology

Contents

Notice

As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to timetable viewer. To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff

Credit points
10

Prerequisites
Admission to MCrim or MPICT or MCPICT or GradDipPICT or GradDipCPICT or PGCertPICT or GradCertPICT or GradCertCPICT or MPICTMIntSecSt or MCPICTMIntSecSt or MIntSecStud or GradDipIntSecStud or MInfoTech or MSecStrategicStud or MIntell or MCTerrorism or MCyberSec or GradDipSecStudCr or GradCertSecStudCr or MSecStrategicStudMCrim or MSecStrategicStudMIntell or MSecStrategicStudMCyberSec or MSecStrategicStudMCTerrorism or MIntellMCrim or MIntellMCyberSec or MIntellMCTerrorism or MCyberSecMCTerrorism or MCyberSecMCrim or MCTerrorismMCrim or Master of Cyber Security Analysis or admission to BSecStudMCTerrorism or BSecStudMCrim or BSecStudMCyberSecAnalysis or BSecStudMIntell or BSecStudMSecStrategicStud or (10cps at 6000 level or 10cps at 8000 level)

Corequisites

Co-badged status
PICX8080

Unit description
This unit provides an overview of the new and developing threats that cyberspace brings in terms of global security and the implications for corporate, law enforcement and national security responses. The course will analyse cyber attacks involving both nation state actors and non-nation state actors with political motives (including terrorists) through historical, operational and strategic perspectives. Students will gain an understanding of various definitions of cyber espionage, cyber terrorism, cyber warfare and information warfare. They will also be able to analyse how nation states and non-nation state actors utilise the Internet as an attack vector in information warfare to infiltrate digital systems to gain control of critical infrastructure. The unit is interactive and students are expected to actively participate in seminars and online discussion forums.

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 and differentiate characteristics and typologies of different cyber threats and trends in the cyber space.
ULO2: Analyse the technical, social and political drivers of information warfare, cyber conflict and cyber espionage.
ULO3: Analyse how nation-states and non-nation-state actors utilise the Internet as an attack vector in information warfare to infiltrate digital systems and gain control of critical infrastructure, through the use of case studies.
ULO4: Develop the ability to conduct independent and collaborative research through written presentations.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly participation	10%	No	Weekly
Weekly Quiz	10%	No	Weekly weeks 3-12
Research Essay	50%	No	Week 11
Case Study	30%	No	Week 6

Weekly participation

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 13 hours
Due: **Weekly**
Weighting: **10%**

Weekly participation in weekly discussions

On successful completion you will be able to:

- Understand and differentiate characteristics and typologies of different cyber threats and trends in the cyber space.
- Analyse the technical, social and political drivers of information warfare, cyber conflict and cyber espionage.
- Analyse how nation-states and non-nation-state actors utilise the Internet as an attack vector in information warfare to infiltrate digital systems and gain control of critical

infrastructure, through the use of case studies.
- Develop the ability to conduct independent and collaborative research through written presentations.

Weekly Quiz

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 11 hours
Due: **Weekly weeks 3-12**
Weighting: **10%**

10 weekly quizzes

On successful completion you will be able to:
- Understand and differentiate characteristics and typologies of different cyber threats and trends in the cyber space.
- Analyse the technical, social and political drivers of information warfare, cyber conflict and cyber espionage.
- Analyse how nation-states and non-nation-state actors utilise the Internet as an attack vector in information warfare to infiltrate digital systems and gain control of critical infrastructure, through the use of case studies.
- Develop the ability to conduct independent and collaborative research through written presentations.

Research Essay

Assessment Type [1]: Essay
Indicative Time on Task [2]: 60 hours
Due: **Week 11**
Weighting: **50%**

Research Essay on Specific Cyber Issue

On successful completion you will be able to:
- Understand and differentiate characteristics and typologies of different cyber threats and trends in the cyber space.
- Analyse the technical, social and political drivers of information warfare, cyber conflict and cyber espionage.
- Analyse how nation-states and non-nation-state actors utilise the Internet as an attack vector in information warfare to infiltrate digital systems and gain control of critical infrastructure, through the use of case studies.

- Develop the ability to conduct independent and collaborative research through written presentations.

Case Study

Assessment Type [1]: Essay
Indicative Time on Task [2]: 40 hours
Due: **Week 6**
Weighting: **30%**

Cyber Breach Case Study

On successful completion you will be able to:

- Understand and differentiate characteristics and typologies of different cyber threats and trends in the cyber space.
- Analyse the technical, social and political drivers of information warfare, cyber conflict and cyber espionage.
- Develop the ability to conduct independent and collaborative research through written presentations.

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[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

DELIVERY AND RESOURCES

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) a penalty for lateness will apply – two (2) marks out of 100 will be deducted per day for assignments submitted after the due date – and (b) no assignment will be accepted seven (7) days (incl. weekends) after the original submission deadline. No late submissions will be accepted for timed assessments – e.g. quizzes, online tests.

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 exceeds the limit by more than 10%, then penalties will apply. These penalties are 5% of the awarded mark for every 100 words over the word limit. If a paper is 300 words over, for instance, it will lose 3 x 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 Grade Appeal Policy in cases where students feel their work was graded inappropriately: http://www.mq.edu.au/policy/docs/gradeappeal/policy.html In accordance with the Grade Appeal Policy, 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.

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
- Grade Appeal Policy
- Complaint Management 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

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 help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- 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

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

Student Enquiries

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

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.