UNSW Course Outline

ZEIT8403 Capability Option Analysis - 2024

Published on the 27 Jun 2024

General Course Information

Course Code : ZEIT8403
Year : 2024
Term : Semester 2
Teaching Period : Z2
Is a multi-term course? : No
Faculty : UNSW Canberra
Academic Unit : School of Systems and Computing
Delivery Mode : Online
Delivery Format : Standard
Delivery Location : UNSW Canberra at ADFA
Campus : UNSW Canberra
Study Level : Postgraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course aims at providing students an understanding of capability science and how it is used in achieving strategic organisational goals in defence as well as in a broader context. It also focuses on teaching mechanisms required to analyse and develop such capabilities. The

students are exposed to a number of analytical techniques used to identify, analyse, evaluate and choose between capability options.

At the successful completion of this course, students will understand the concept of capabilities and capability based planning, enhance their skills in analysing capability gaps and generating options to address these gaps, develop skills in analysing capability options and developing coherent and informative business cases to present their analysis to decision makers, and learn decision making techniques under risk for single and multiple attribute decision problems.

Relationship to Other Courses

TThe course begins by providing a general introduction to capabilities, including the motivation behind capability-based thinking and major processes in capability development. The background material also includes a brief review of capability-based planning and capability development frameworks in the Australian Defence context.

However, as a core course in the Master of Decision Analytics Program, this course is closely aligned with two other core courses, ZEIT8402-Evidence Based Decision Making and ZEIT8404-Decision Making Analytics. While the ZEIT8403 explains how to analyse different capability options by using multiple decision making tools (mostly covered in ZEIT8404), ZEIT8402 explains the methodologies to gather evidence and then use them for qualitative and quantitative decision making.

Nevertheless, there are no prerequisites for this course. Each course has unique contents to merit students.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Articulate the concept of capabilities and capability based planning and its connection more broadly to strategic management and its processes
CLO2 : Describe some of the techniques used to analyse capability gaps and generate options to address these gaps.
CLO3 : Develop skills in analysing capability options and selecting appropriate tools to choose among these options
CLO4 : Articulate principles for developing a coherent and informative business case based on their analyses
CLO5 : Apply decision making techniques under risk for single and multiple attribute decision problems

Course Learning Outcomes	Assessment Item
CLO1 : Articulate the concept of capabilities and capability based planning and its connection more broadly to strategic management and its processes	• Assignment 1 • Assignment 3
CLO2 : Describe some of the techniques used to analyse capability gaps and generate options to address these gaps.	• Assignment 2 • Assignment 1 • Assignment 3
CLO3 : Develop skills in analysing capability options and selecting appropriate tools to choose among these options	• Assignment 2 • Assignment 1 • Assignment 3
CLO4 : Articulate principles for developing a coherent and informative business case based on their analyses	• Assignment 2 • Assignment 3
CLO5 : Apply decision making techniques under risk for single and multiple attribute decision problems	• Assignment 2 • Assignment 3

Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate

Learning and Teaching in this course

Moodle is the Learning Management System used at UNSW Canberra. All courses have a Moodle site, which will become available to students at least one week before the start of the semester. Please find all help and documentation (including Blackboard Collaborate) on the Moodle Support page.

UNSW Moodle supports the following web browsers:

» Google Chrome 50+
» Safari 10+
** Internet Explorer is not recommended

** Addons and Toolbars can affect any browser's performance.

Operating systems recommended are:

Windows 7, 10, Mac OSX Sierra, iPad IOS10

For further details about system requirements click here.

Log in to Moodle here.

If you need further assistance with Moodle:

For enrolment and login issues please contact:
IT Service Centre
Email: itservicecentre@unsw.edu.au
Phone: (02) 9385-1333
International: +61 2 9385 1333

For all other Moodle issues please contact:
External TELT Support
Email: externalteltsupport@unsw.edu.au
Phone: (02) 9385-3331
International: +61 2 938 53331

Opening hours:
Monday – Friday 7:30am – 9:30 pm
Saturday & Sunday 8:30 am – 4:30pm

Other Professional Outcomes

Developing Graduate Capabilities

Successful completion of this course contributes to the acquisition of UNSW graduate capabilities. UNSW aspires to develop globally focused graduates who are **rigorous scholars** capable of **leadership** and **professional practice** in an **international** community.

Students will be encouraged to develop the following graduate capabilities by undertaking the course activities and mastering the knowledge content. These capabilities will be assessed within the assessment tasks:

1. Ability to build problem solving skills and undertake problem identification, formulation and solution
2. Ability to communicate effectively with the community at large
3. Ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member
4. Ability of the need to undertake lifelong learning, and the capacity to do so.

Additional Course Information

The course comprises four major components, including:

- The strategic analysis component, which focuses on providing an understanding of the strategic management processes and their relationship with the capability-based planning paradigm.
- The gap analysis component, which focuses on introducing concepts and techniques used in identifying capability gaps, including scenario generation techniques.
- The options analysis component, which focuses on introducing concepts and techniques used in generating capability options to address capability gaps and evaluating these options using experimentation, economic and risk analyses techniques. This component also covers business case development for presenting capability options.
- The decision analysis component, which focuses on introducing concepts and techniques to choose between options, including decision making techniques under uncertainty and risk, as well as single and multicriteria decision making techniques, including the utility approach, AHP and SMART.

Although some of the techniques covered in this course are quantitative, basic and intuitive mathematical skills are sufficient to understand these methods.

This course relies on a variety of teaching strategies that have been developed over the past few years based on the reflection on the student feedback, emerging trends, and research progress in the relevant disciplines. The concepts presented in this course can be confusing and difficult to master for the students, especially if they are new to structured thinking and decision-making in dealing with complex problems. This is appreciated, and the teaching strategies employed in this course aim at providing an engaging and rewarding educational environment to facilitate students' learning experiences and overcome such difficulties.

The lecture notes provided in this course are synthesized from multiple sources, including those available through the course reserve. The lecture notes are divided into modules to facilitate structured and scheduled studying activities. A course guide will be provided to help you relate the connection between different course modules and between study material and Assignments.

The three assignments in this course aim at providing students with learning by doing experience. Students will receive comments on their assignments prior to the due date of the next assignment. This will allow them to improve their assessments progressively in the light of critical feedback. Students are expected to study as much of the recommended reading material as they can, expand their reading through the linked references and their own research, reflect upon the studied material, and think outside the box to comprehend the concepts and

techniques taught in this course.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Assignment 1 Assessment Format: Individual	20%	Due Date: 04/08/2024 11:55 PM
Assignment 2 Assessment Format: Individual Short Extension: Yes (3 days)	40%	Start Date: Not Applicable Due Date: 15/09/2024 11:55 PM
Assignment 3 Assessment Format: Individual Short Extension: Yes (3 days)	40%	Start Date: Not Applicable Due Date: 13/10/2024 11:55 PM

Assessment Details

Assignment 1

Assessment Overview

Demonstrating learning on selected topics

Course Learning Outcomes

- CLO1 : Articulate the concept of capabilities and capability based planning and its connection more broadly to strategic management and its processes
- CLO2 : Describe some of the techniques used to analyse capability gaps and generate options to address these gaps.
- CLO3 : Develop skills in analysing capability options and selecting appropriate tools to choose among these options

Detailed Assessment Description

The purpose of this assignment is to get you to apply the concepts you were taught in the course within a larger context. The first thing you need to do when you are faced with a problem that is larger than the time and skills available at your hand is “scoping”. Do not sacrifice quality when you do not have resources, scope the problem to fit the resources you have while maintaining quality. Provide a coherent document rather than a document that discusses everything and is all over the place. Write an argument guided by the questions raised above, and do not just list them with answers.

Assessment Length

2000 words

Submission notes

The assignment should be submitted through Moodle. More information will be provided via the Moodle platform.

Assessment information

When preparing for this assignment:

1. You need to have clear understanding on the lecture contents of this course of Week 1 and Week 2 to complete this assignment.
2. The report should not exceed 2000 words using the formatting instructions in the presentation section. Exceeding the word limit may incur a discount of 5% of the mark.
3. In order to provide evidence for your recommendations, some technical details, such as scenarios and capabilities, may be submitted as appendices/attachments to the report.
4. Use Google and other search engines to find materials for your project.
5. Adopt a scholarly approach to writing by using a formal, academic style. List the references you used and provide an acknowledgment to anyone you discussed this assignment with or obtained information from, including colleagues in the class. References are not counted towards the word limit.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Assignment 2

Assessment Overview

a major project based learning

Course Learning Outcomes

- CLO2 : Describe some of the techniques used to analyse capability gaps and generate options to address these gaps.
- CLO3 : Develop skills in analysing capability options and selecting appropriate tools to choose among these options
- CLO4 : Articulate principles for developing a coherent and informative business case based on their analyses
- CLO5 : Apply decision making techniques under risk for single and multiple attribute decision problems

Detailed Assessment Description

The purpose of this assignment is to get you to apply the concepts you were taught in the course

within a larger context. The first thing you need to do when you are faced with a problem that is larger than the time and skills available at your hand is “scoping”. Do not sacrifice quality when you do not have resources, scope the problem to fit the resources you have while maintaining quality. Provide a coherent document rather than a document that discusses everything and is all. over the place. Write an argument guided by the questions raised above and do not just list them with answers.

Assessment Length

4000 words

Submission notes

This is an individual project; students should submit it through the Moodle platform

Assessment information

When preparing for this assignment:
1. You need to have a clear understanding of the lecture contents of this course from Week 3 to Week 6 to complete this assignment.
2. The report should not exceed 4000 words using the formatting instructions in the presentation section. Exceeding the word limit may incur a discount of 5% of the mark.
3. In order to provide evidence for your recommendations, some technical details, such as scenarios and capabilities, may be submitted as appendices/attachments to the report.
4. Use Google and other search engines to find materials for your project.
5. Adopt a scholarly approach to writing by using a formal, academic style. List the references you used and provide an acknowledgment to anyone you discussed this assignment with or obtained information from, including colleagues in the class. References are not counted towards the word limit.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Assignment 3

Assessment Overview

Further investigation and reporting on the course project

Course Learning Outcomes

- CLO1 : Articulate the concept of capabilities and capability based planning and its connection more broadly to strategic management and its processes
- CLO2 : Describe some of the techniques used to analyse capability gaps and generate

options to address these gaps.
- CLO3 : Develop skills in analysing capability options and selecting appropriate tools to choose among these options
- CLO4 : Articulate principles for developing a coherent and informative business case based on their analyses
- CLO5 : Apply decision making techniques under risk for single and multiple attribute decision problems

Detailed Assessment Description

The purpose of this assignment is to train you to do proper military experiment design and data collection plans. The key to this assignment is to get the logic right; do not just list variables or attributes without understanding how they are linked and how they contribute to the measures you propose to evaluate the option. Do not sacrifice quality when you do not have resources; scope the problem to fit the resources you have while maintaining quality. Provide a coherent document rather than a document that discusses everything and is all over the place. Write an argument guided by the elements listed above, and do not just list them with answers.

Assessment Length

4000 words

Submission notes

The assignment should be submitted through Moodle. More information will be provided once the semester starts.

Assessment information

When preparing for this assignment:
1. You need to have a clear understanding of the lecture contents of this course from Week 7 to Week 11 to complete this assignment.
2. The report should not exceed 4000 words using the formatting instructions in the presentation section. Exceeding the word limit may incur a discount of 5% of the mark.
3. Use Google and other search engines to find materials on your project (such as measures of performance used for the specific capability you are looking at).
4. Adopt a scholarly approach to writing by using a formal, academic style. List the references you used and provide an acknowledgment to anyone you discussed this assignment with or obtained information from, including colleagues in the class.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

General Assessment Information

Use of Generative AI in Assessments

PLANNING ASSISTANCE ***(Assignments 1, 2 & 3)***

As this assessment task involves some planning or creative processes, you are permitted to use software to generate initial ideas. However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e., only occasional AI-generated words or phrases may form part of your final submission. It is a good idea to keep copies of the initial prompts to show your lecturer if there is any uncertainty about the originality of your work.

If the outputs of generative AI, such as ChatGPT form a part of your submission, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension, and exclusion.

** To cite: OpenAI (Year Accessed). ChatGPT. OpenAI.* ***https://openai.com/models/chatgpt/***

* Please note that the outputs from these tools are not always accurate, appropriate, or properly referenced. Before submission, you should ensure that you have moderated and critically evaluated the outputs from generative AI tools such as ChatGPT.

Referencing

In this course, students are required to reference following the APA 6 / Chicago NB referencing style. Information about referencing styles is available at: https://guides.lib.unsw.adfa.edu.au/c.php?g=472948&p=3246720

Academic Integrity and Plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to this principle of academic integrity. All students are expected to adhere to UNSW's Student Code of Conduct https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf

Plagiarism undermines academic integrity and is not tolerated at UNSW. *It is defined as using the words or ideas of others and passing them off as your own, and* can take many forms, from deliberate cheating to accidental copying from a source without acknowledgement.

For more information, please refer to the following:

https://student.unsw.edu.au/plagiarism

Collaborative /interactive sessions via Moodle (known as Blackboard Collaborative Session) will be arranged weekly. The details will be provided during the course. We will host three unique online synchronous sessions to discuss these assignment items respectively (in addition to our weekly webinars if needed).

Late assignments will be penalized at the rate of 5% of the assignment mark for each working day past the due date up to a maximum of 5 days (120 hours), after which an assessment can no longer be submitted, and a grade of 0 will be applied. Late assignments with accompanying medical certificates will not incur any penalties. Submissions for waiver of the deadline on compassionate grounds, providing the grounds can be substantiated, will be considered individually on their own merit.

Note: Penalties for late submission will be applied from the original submission date unless that date is formally varied by agreement. If a late submission is allowed, the extra time granted should be viewed solely as a period of grace. If this delayed date is not met, the penalty should apply from the original date of submission, not from the end of the period of grace.

In this course, students are required to reference following the APA 6 / Chicago NB referencing style. Information about referencing styles is available at: https://guides.lib.unsw.adfa.edu.au/c.php?g=472948&p=3246720.

Grading Basis

Standard

Requirements to pass course

All marks obtained for assessment items during the session are provisional. The final mark as published by the university following the assessment review group meeting is the only official mark. The overall passing mark is set at 50% by the university and this must not be varied. However, you must submit all assessments with reasonable work. As per school policy, the final marks in this course may be moderated. Your marks on assignments with feedback will be posted on Moodle.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 15 July - 19 July	Activity	Introduction, Problem Solving, Strategic Management
Week 2 : 22 July - 26 July	Activity	Example of Business model: Defence Capability Lifecycle
Week 3 : 29 July - 2 August	Activity	Business Case Analysis – Principles, Structures & Tools (Part 1)
	Assessment	Assignment 1 (20%) Due Date, Sunday (23:55 pm, AEDT), 4th of August [feedback will be provided by the census date, 11th August]
Week 4 : 5 August - 9 August	Activity	Business Case Analysis Tools (Part 2)
Week 5 : 12 August - 16 August	Activity	Economic & Risk Analysis
Week 6 : 19 August - 23 August	Activity	Decision Analysis Tools
Week 7 : 9 September - 13 September	Activity	Example of Experimentation, Guidex Principles
	Assessment	Assignment 2 Due Date, 40%, Sunday (23:55 pm, AEDT), 15th September.
Week 8 : 16 September - 20 September	Activity	Data Collection
Week 9 : 23 September - 27 September	Activity	Data Integrity
Week 10 : 30 September - 4 October	Activity	Simulation, Alternate Analysis, Red Teaming
Week 11 : 7 October - 11 October	Activity	Revision
	Assessment	Assignment 3 Due Date, 40%, Sunday (23:55 pm, AEDT), 13th October.
Week 12 : 14 October - 18 October	Reading	No Class
Week 13 : 21 October - 25 October	Reading	No Class

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

Please check the detailed schedule.

Course Resources

Prescribed Resources

Students will need to obtain the following essential texts:

- Business Case Analysis – Examples, Concepts & Techniques, James W. Brannock, STS Publications, 2004.
- Practical Strategy: Structured Tools and Techniques, Geoff Coyle (2004) Financial Times Prentice Hall, ISBN-13: 978- 0273682202
- Decision Analysis for Management Judgment, Paul Goodwin and George Wright (2014) Wiley; 5th Ed, ISBN 978-0-470- 71439

The textbooks provide the minimum essential reading material for this course.

Recommended Resources

Recommended reading lists shall be provided as part of the lecture notes.

Course Evaluation and Development

One of the key priorities in the 2025 Strategy for UNSW is a drive for academic excellence in education. One of the ways of determining how well UNSW is progressing towards this goal is by listening to our own students. Students will be asked to complete the myExperience survey towards the end of this course.

Students can also provide feedback during the semester via: direct contact with the lecturer, the "On-going Student Feedback" link in Moodle, Student-Staff Liaison Committee meetings in schools, informal feedback conducted by staff, and focus groups. Student opinions really do make a difference. Refer to the Moodle site for this course to see how the feedback from previous students has contributed to the course development.

Important note: *Students are reminded that any feedback provided should be constructive and professional and that they are bound by the Student Code of Conduct Policy*

https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Ripon Chakr abortty		Room 108, Building 15, UNSW Canberra	+61 2 5114 5133	Please email me to book a session. Thanks	Yes	Yes

Other Useful Information

School-specific Information

The Leaning Management System

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• Google Chrome 50+

• Safari 10+

Internet Explorer is not recommended. Addons and Toolbars can affect any browser's performance.

Operating systems recommended are:

• Windows 10,

• Mac OSX Sierra,

• iPad IOS10

Further details:

Moodle System Requirements

Moodle Log In

If you need further assistance with Moodle:

For enrolment and login issues please contact:

IT Service Centre

Email: itservicecentre@unsw.edu.au

Phone: (02) 9385-1333

International: +61 2 9385 1333

For all other Moodle issues please contact:

External TELT Support

Email: externalteltsupport@unsw.edu.au

Phone: (02) 9385-3331

International: +61 2 938 53331

Opening hours:

Monday – Friday 7:30am – 9:30 pm

Saturday & Sunday 8:30 am – 4:30pm

Study at UNSW Canberra

Study at UNSW Canberra has lots of useful information regarding:

• Where to get help

• Administrative matters

• Getting your passwords set up

• How to log on to Moodle

• Accessing the Library and other areas.

UNSW Canberra Student Hub

For News and Notices, Student Services and Support, Campus Comminity, Quick Links, Important Dates and Upcoming Events

School Contact Information

Deputy Head of School (Education): Dr Erandi Hene Kankanamge

E: e.henekankanamge@adfa.edu.au

T: 02 5114 5157

Syscom Admin Support: syscom@unsw.edu.au

T: 02 5114 5284

Syscom Admin Office: Building 15, Level 1, Room 101 (open 10am to 4pm, Mon to Fri)