



## UNSW Course Outline

# ZEIT8231 Test and Evaluation - 2024

Published on the 20 Aug 2024

## General Course Information

Course Code : ZEIT8231

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 : In Person

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 focuses on the test and evaluation practices that are essential if complex systems are to be developed to meet users' expectations for functional and physical performance. The course provides a broad introductory overview of all aspects of test and evaluation, its role as

part of systems engineering, its relationship to verification and validation, major types of T&E (development T&E, acceptance T&E, and operational T&E), T&E measures (critical operational issues, measures of effectiveness etc) and major T&E plans and documentation. The course has a strong practical element, both in terms of the introduction to the topic as well as formal practice in developing T&E measures and T&E master plans through exercises.

## Course Aims

The aim of this course is to provide an understanding of the processes and management associated with test and evaluation as part of the system engineering discipline. The course also introduces the tools, plans, and documents commonly used in T&E and details how T&E coexists with other disciplines (particularly systems engineering and project management).

## Relationship to Other Courses

This course is one of the four compulsory courses in the Master of Systems Engineering program. There are three main Test and Evaluation (T&E) subjects that collectively aim to meet all 25 competencies for T&E provided by U.S. Defense for their Defense Acquisition University:

- ZEIT8231 Introduction to T&E: Master test planning, metrics, resourcing and management
- ZEIT8034 Advanced T&E Techniques: Test design and analysis.
- ZEIT8296/ZEIT8247 T&E Project: Mentoring and competency in T&E skills through research and publication.

ZEIT8034 is not a follow-on to ZEIT8231; they can be done in either order. Completion of ZEIT8034 to a high standard is required to be accepted to ZEIT8296/8247.

ZEIT 8231 Test & Evaluation (T&E) provides an understanding of the processes and management associated with T&E as part of the system engineering discipline. The course also introduces the tools, plans and documents commonly used in T&E and details how T&E coexists with other disciplines, particularly systems engineering and complex project management. By coordinating the T&E from a system perspective, the focus and emphasis of the testing can be varied with different life-cycle phases without compromising the entire T&E effort. T&E is significant for both the customer and the contractor.

A thorough system evaluation involves validating the system against the original customer requirements. This full validation cannot be completed until the entire system has been

designed, developed, constructed and operated in the intended operational environment by operational personnel. The aim of system T&E is to test and evaluate the system progressively as it passes through the various development phases to avoid costly and time-consuming modifications to the system design late in the life cycle. With this in mind, progressive test and evaluation is both a risk mitigation measure and project performance measure that provides a high degree of confidence early in the system life cycle that the design is tracking to perform as required.

# Course Learning Outcomes

Course Learning Outcomes	International Council on Systems Engineering (INCOSE)
CLO1 : Describe organisation and roles of T&E in Systems Engineering and Project Management as applied to system design and capability acquisition lifecycles, including validation methods, verification methods and categories, configuration baselines and functional and physical configuration (FCA/ PCA) auditing; and complexity issues for Systems-of-Systems (SoS).	<ul style="list-style-type: none"> <li>• KNOW3.5 : Understand the importance of configuration management in the system development process</li> <li>• KNOW2.10 : Understand the activities necessary for the customer to employ the system</li> <li>• KNOW2.8 : Understand the importance of verification in the system process</li> <li>• KNOW2.9 : Understand the importance of validation to the stakeholders</li> </ul>
CLO2 : Compare the types of T&E and their contemporary issues, including preview T&E (pre-contract), developmental T&E, acceptance T&E, operational T&E, and speciality T&E such as: anthropometrics and human factors, environmental qualification, electromagnetic effects, software usability and cybersecurity.	<ul style="list-style-type: none"> <li>• KNOW7.2 : Analyze the relationship between specialty engineering and the technical processes</li> <li>• KNOW7.4 : Understand the relationship of the human specialty engineering functions to the technical processes, especially the operations process</li> <li>• KNOW3.3 : Understand how decision management supports the other processes</li> <li>• KNOW3.4 : Understand the importance of risk management in the system development process</li> <li>• KNOW3.6 : Understand the contribution systems engineering makes to information, measurement, and quality assurance processes</li> <li>• KNOW3.7 : Understand the importance of providing evidence of implementation compliance</li> <li>• KNOW2.1 : Understand the rationale/know the steps for the genesis of a new system</li> <li>• KNOW2.7 : Know the aspects of implementation and integration</li> </ul>
CLO3 : Develop T&E master (management) plans (TEMPs) within a hierarchy of project plans using structured risk-based approaches, including during the seminal conceptual phase.	<ul style="list-style-type: none"> <li>• KNOW3.3 : Understand how decision management supports the other processes</li> <li>• KNOW3.4 : Understand the importance of risk management in the system development process</li> <li>• KNOW3.7 : Understand the importance of providing evidence of implementation compliance</li> <li>• KNOW2.10 : Understand the activities necessary for the customer to employ the system</li> <li>• KNOW2.5 : Know the importance of the design definition process and its relationship to implementation</li> <li>• KNOW2.6 : Understand the relationship of</li> </ul>

	systems analysis to the other technical processes
CLO4 : Develop hierarchical and traceable T&E measures for capability systems, including critical operational issues (COIs) and measures of effectiveness/suitability (MOEs/MOSs) at the customer-level or needs-level, and measures of performance (MOPs) and technical performance measures (TPMs) at the design-level or specification-level.	<ul style="list-style-type: none"> <li>• KNOW4.2 : Know the organizational activities that generate and support system development</li> <li>• KNOW3.4 : Understand the importance of risk management in the system development process</li> <li>• KNOW3.6 : Understand the contribution systems engineering makes to information, measurement, and quality assurance processes</li> <li>• KNOW2.7 : Know the aspects of implementation and integration</li> <li>• KNOW2.8 : Understand the importance of verification in the system process</li> <li>• KNOW2.9 : Understand the importance of validation to the stakeholders</li> </ul>

Course Learning Outcomes	Assessment Item
CLO1 : Describe organisation and roles of T&E in Systems Engineering and Project Management as applied to system design and capability acquisition lifecycles, including validation methods, verification methods and categories, configuration baselines and functional and physical configuration (FCA/ PCA) auditing; and complexity issues for Systems-of-Systems (SoS).	<ul style="list-style-type: none"> <li>• Short Class Tests</li> <li>• Assignment Group (Collaborative)</li> <li>• Assignment Individual Aspects</li> </ul>
CLO2 : Compare the types of T&E and their contemporary issues, including preview T&E (pre-contract), developmental T&E, acceptance T&E, operational T&E, and speciality T&E such as: anthropometrics and human factors, environmental qualification, electromagnetic effects, software usability and cybersecurity.	<ul style="list-style-type: none"> <li>• Short Class Tests</li> <li>• Assignment Group (Collaborative)</li> <li>• Assignment Individual Aspects</li> </ul>
CLO3 : Develop T&E master (management) plans (TEMPs) within a hierarchy of project plans using structured risk-based approaches, including during the seminal conceptual phase.	<ul style="list-style-type: none"> <li>• Short Class Tests</li> <li>• Assignment Group (Collaborative)</li> <li>• Assignment Individual Aspects</li> </ul>
CLO4 : Develop hierarchical and traceable T&E measures for capability systems, including critical operational issues (COIs) and measures of effectiveness/suitability (MOEs/ MOSs) at the customer-level or needs-level, and measures of performance (MOPs) and technical performance measures (TPMs) at the design-level or specification-level.	<ul style="list-style-type: none"> <li>• Short Class Tests</li> <li>• Assignment Group (Collaborative)</li> <li>• Assignment Individual Aspects</li> </ul>

## Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate

## Learning and Teaching in this course

Students should work progressively through the course notes, textbooks and any associated additional readings for each chapter available on the Moodle website. After assigned and extra readings complete the review questions at the end of the chapter, and before the due date, do the applicable short test. The review questions enable you to revisit significant information from the chapter and gain experience with the relevant information and techniques.

The assignments provide an opportunity to extend this theoretical knowledge into practical skills. The assignment requires you to complete an individual structured literature review on the

testing topic before commencing the group test planning phase so you can effectively collaborate, and so you understand a shared system of interest sufficiently to develop test plans.

Sharing your T&E metrics and activities in collaborative learning during the group test planning is an important opportunity to check the broad interpretation of the metrics and their conformance to theory, as you would do with project stakeholders in a real project.

## The Learning Management System

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 semester. Please find all help and documentation (including Blackboard Collaborate) at 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](mailto: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](mailto: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

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.

The major goal of this course is to provide you with an understanding of T&E as part of the system engineering discipline. The assignment tasks require engagement with the information presented, applying the material to typical situations. This exercises your ability to analyse a problem using the newly learned techniques and synthesise appropriate test methodologies. The assignment tasks are submitted as written reports in a similar format to those used to communicate T&E plans in typical projects. The focus of this course is on developing the following graduate attributes:

- *GA2 an in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context;*
- *GA3 the capacity for analytical and critical thinking and for creative problem solving; and*
- *GA12 the skills of effective communication.*

## Additional Course Information

Students should work progressively through the course notes, textbooks and any associated additional readings for each chapter available on the Moodle website. After assigned and extra readings complete the review questions at the end of the chapter, and before the due date, do the applicable short test. The review questions enable you to revisit significant information from the chapter and gain experience with the relevant information and techniques.

The assignments provide an opportunity to extend this theoretical knowledge into practical skills. The assignment requires you to complete an individual structured literature review on the testing topic before commencing the group test planning phase so you can effectively collaborate, and so you understand a shared system of interest sufficiently to develop test plans.



Sharing your T&E metrics and activities in collaborative learning during the group test planning is an important opportunity to check the broad interpretation of the metrics and their conformance to theory, as you would do with project stakeholders in a real project.

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates	International Council on Systems Engineering (INCOSE)
Short Class Tests Assessment Format: Individual Short Extension: Yes (1 day)	30%	Start Date: Start dates are 0800 on 21 Sep, 12 Oct & 26 Oct Due Date: Due dates are 2200 on 22 Sep, 13 Oct & 27 Oct	<ul style="list-style-type: none"><li>• KNOW2.3 : Know the concepts of requirements definition</li><li>• KNOW1.4 : Analyze the Functions and Relationships of the Various Life Cycle Phases</li><li>• KNOW2.2 : Know the importance of the identifying stakeholder needs and requirements</li><li>• KNOW2.8 : Understand the importance of verification in the system process</li><li>• KNOW2.9 : Understand the importance of validation to the stakeholders</li><li>• KNOW3.3 : Understand how decision management supports the other processes</li><li>• KNOW3.4 : Understand the importance of risk management in the system development process</li><li>• KNOW3.5 : Understand the importance of configuration management in the system development process</li><li>• KNOW3.7 : Understand the importance of providing evidence of implementation compliance</li><li>• KNOW3.6 : Understand the contribution systems engineering makes to information, measurement, and quality assurance processes</li><li>• KNOW4.2 : Know the organizational activities</li></ul>

			<p>that generate and support system development</p> <ul style="list-style-type: none"> <li>• KNOW6.3 : Understand how modeling can benefit the systems engineering and the life cycle process</li> <li>• KNOW7.3 : Understand the relationship of logistics engineering to the technical processes, especially the maintenance process</li> <li>• KNOW7.4 : Understand the relationship of the human specialty engineering functions to the technical processes, especially the operations process</li> </ul>
<p>Assignment Group (Collaborative) Assessment Format: Group Short Extension: Yes (3 days)</p>	30%	<p>Start Date: 28/10/2024 07:00 AM Due Date: 17/11/2024 10:00 PM</p>	<ul style="list-style-type: none"> <li>• KNOW1.1 : Understand the Definition and Concepts of a System</li> <li>• KNOW1.2 : Understand the Complexities of a System of Systems</li> <li>• KNOW2.5 : Know the importance of the design definition process and its relationship to implementation</li> <li>• KNOW2.8 : Understand the importance of verification in the system process</li> <li>• KNOW2.9 : Understand the importance of validation to the stakeholders</li> <li>• KNOW2.10 : Understand the activities necessary for the customer to employ the system</li> <li>• KNOW3.4 : Understand the importance of risk management in the system development process</li> <li>• KNOW3.5 : Understand the importance of configuration management in the system development process</li> <li>• KNOW3.7 : Understand the importance of</li> </ul>

			<p>providing evidence of implementation compliance</p> <ul style="list-style-type: none"> <li>• KNOW3.6 : Understand the contribution systems engineering makes to information, measurement, and quality assurance processes</li> <li>• KNOW7.3 : Understand the relationship of logistics engineering to the technical processes, especially the maintenance process</li> <li>• KNOW7.4 : Understand the relationship of the human specialty engineering functions to the technical processes, especially the operations process</li> </ul>
<p>Assignment Individual Aspects Assessment</p> <p>Format: Individual</p> <p>Short Extension: Yes (5 days)</p>	40%	<p>Start Date: Literature survey starts at beginning of course (9 Sep), while individual planning extension starts 18 Nov.</p> <p>Due Date: Survey due 8 Oct, Individual Planning Extension due 8 Dec (both 2200 hrs)</p>	<ul style="list-style-type: none"> <li>• KNOW1.4 : Analyze the Functions and Relationships of the Various Life Cycle Phases</li> <li>• KNOW2.5 : Know the importance of the design definition process and its relationship to implementation</li> <li>• KNOW2.7 : Know the aspects of implementation and integration</li> <li>• KNOW3.3 : Understand how decision management supports the other processes</li> <li>• KNOW3.5 : Understand the importance of configuration management in the system development process</li> <li>• KNOW3.6 : Understand the contribution systems engineering makes to information, measurement, and quality assurance processes</li> <li>• KNOW4.2 : Know the organizational activities that generate and support system development</li> </ul>

			<ul style="list-style-type: none"> <li>• KNOW6.3 : Understand how modeling can benefit the systems engineering and the life cycle process</li> <li>• KNOW7.3 : Understand the relationship of logistics engineering to the technical processes, especially the maintenance process</li> <li>• KNOW7.4 : Understand the relationship of the human specialty engineering functions to the technical processes, especially the operations process</li> </ul>
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## Assessment Details

### Short Class Tests

#### Assessment Overview

Three short class tests are conducted to individually assess learning of foundational concepts in T&E from the supplied and extensive class notes and readings. In the case of wholly distance subjects, these class tests are administered on Moodle.

#### Course Learning Outcomes

- CL01 : Describe organisation and roles of T&E in Systems Engineering and Project Management as applied to system design and capability acquisition lifecycles, including validation methods, verification methods and categories, configuration baselines and functional and physical configuration (FCA/PCA) auditing; and complexity issues for Systems-of-Systems (SoS).
- CL02 : Compare the types of T&E and their contemporary issues, including preview T&E (pre-contract), developmental T&E, acceptance T&E, operational T&E, and speciality T&E such as: anthropometrics and human factors, environmental qualification, electromagnetic effects, software usability and cybersecurity.
- CL03 : Develop T&E master (management) plans (TEMPs) within a hierarchy of project plans using structured risk-based approaches, including during the seminal conceptual phase.
- CL04 : Develop hierarchical and traceable T&E measures for capability systems, including critical operational issues (COIs) and measures of effectiveness/suitability (MOEs/MOSs) at the customer-level or needs-level, and measures of performance (MOPs) and technical performance measures (TPMs) at the design-level or specification-level.

#### Assessment Length

Three short tests each with two short answers (paragraph) and one essay answer (1-1.5 page)

### Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

### Generative AI Permission Level

#### **No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

### **Assignment Group (Collaborative)**

#### Assessment Overview

The assignment is about test metrics and test concept planning and is done by all students on a topic set by UNSW. The assignment begins with students individually researching the set topic with a structured literature review, which they submit for feedback. The assignment then continues in small collaborative groups leading to a group submission (30% of subject). Finally, students then individually examine an aspect of the assignment test concept done in the group for greater detail from further researched test planning.

#### Course Learning Outcomes

- CLO1 : Describe organisation and roles of T&E in Systems Engineering and Project Management as applied to system design and capability acquisition lifecycles, including validation methods, verification methods and categories, configuration baselines and functional and physical configuration (FCA/PCA) auditing; and complexity issues for Systems-of-Systems (SoS).
- CLO2 : Compare the types of T&E and their contemporary issues, including preview T&E (pre-contract), developmental T&E, acceptance T&E, operational T&E, and speciality T&E such as: anthropometrics and human factors, environmental qualification, electromagnetic effects, software usability and cybersecurity.
- CLO3 : Develop T&E master (management) plans (TEMPs) within a hierarchy of project plans using structured risk-based approaches, including during the seminal conceptual phase.
- CLO4 : Develop hierarchical and traceable T&E measures for capability systems, including critical operational issues (COIs) and measures of effectiveness/suitability (MOEs/MOSs) at the customer-level or needs-level, and measures of performance (MOPs) and technical performance measures (TPMs) at the design-level or specification-level.

#### Assessment Length

Around 20 pages for groups of three to four students

### Assignment submission Turnitin type

This is not a Turnitin assignment

### Generative AI Permission Level

#### **No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

### **Assignment Individual Aspects**

#### Assessment Overview

The assignment is about test metrics and test concept planning and is done by all students on a topic set by UNSW. The assignment begins with students individually researching the set topic with a structured literature review which they submit for feedback (15% of subject). The assignment then continues in small collaborative groups leading to a group submission (30% of subject). Finally, students then individually examine an aspect of the assignment test concept done in the group for greater detail from further researched test planning (25% of subject). The extension aspects are to be selected from a set list such that ideally one person from each group examines each listed aspect and no-one from the same group does the same extension aspect.

#### Course Learning Outcomes

- CLO1 : Describe organisation and roles of T&E in Systems Engineering and Project Management as applied to system design and capability acquisition lifecycles, including validation methods, verification methods and categories, configuration baselines and functional and physical configuration (FCA/PCA) auditing; and complexity issues for Systems-of-Systems (SoS).
- CLO2 : Compare the types of T&E and their contemporary issues, including preview T&E (pre-contract), developmental T&E, acceptance T&E, operational T&E, and speciality T&E such as: anthropometrics and human factors, environmental qualification, electromagnetic effects, software usability and cybersecurity.
- CLO3 : Develop T&E master (management) plans (TEMPs) within a hierarchy of project plans using structured risk-based approaches, including during the seminal conceptual phase.
- CLO4 : Develop hierarchical and traceable T&E measures for capability systems, including critical operational issues (COIs) and measures of effectiveness/suitability (MOEs/MOSs) at the customer-level or needs-level, and measures of performance (MOPs) and technical performance measures (TPMs) at the design-level or specification-level.

### **Assessment Length**

Around 6 pages for survey, 10 pages for planning extension

### **Assignment submission Turnitin type**

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

### **Generative AI Permission Level**

#### **No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

## **General Assessment Information**

The first short class test will be assessed, and feedback will be provided to students before the Census day (end of Week 4).

### **Late Submission of Assessment**

Unless prior arrangement is made with the lecturer or a formal application for special consideration is submitted, a penalty of 5% of the total available mark for the assessment will apply for each day that an assessment item is late up to a maximum of 5 days (120 hours) after which an assessment can no longer be submitted and a grade of 0 may be applied.

### **Grading Basis**

Standard

### **Requirements to pass course**

The overall passing mark for this course is 50% per university policy. Students must pass the individual assignment components (40% weighting, consisting of literature survey at 15% and assignment extension at 25%) to pass the subject; that is, students cannot rely on the collaborative and knowledge components to pass but only to get a good grade. This caveat ensures students achieve learning outcomes 3b and 4b.



# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 15 July - 19 July	Topic	Week 1 = 9 Sep. T&E roles. Read course notes Chapter 1, review the introductory lecture and read Chapter 1 of the Grech et al. (2019) textbook. Check Moodle site for Section 1 additional higher-grade readings.
Week 2 : 22 July - 26 July	Topic	Week 2 = 16 Sep T&E Types. Read course notes Chapter 2, review the lecture on T&E types and read Chapter 2 of the Grech et al. (2019) textbook. Undertake the short class test at the end of the week. Check Moodle site for Section 2 additional higher-grade readings.
Week 3 : 29 July - 2 August	Topic	Week 3 = 23 Sep T&E metrics. Read course notes Chapter 3, review the lecture on T&E metrics and read Chapter 3 of the Grech et al. (2019) textbook. Check Moodle site for Section 3 additional higher-grade readings.
Week 4 : 5 August - 9 August	Topic	Week 4 = 30 Sep T&E planning. Read course notes Chapter 4, review the lecture on T&E planning and read Chapter 4 of the Grech et al. (2019) textbook. Undertake the short class test at the end of the fortnight (after Labour Day). Submit the literature survey on 8 Oct (after Labour Day). Check Moodle site for Section 4 additional higher-grade readings.
Week 5 : 12 August - 16 August	Topic	Week 5 = 14 Oct T&E related disciplines. Read course notes Chapter 5, review the lecture on T&E-related disciplines and read Chapter 5 of the Grech et al. (2019) textbook. Check Moodle site for Section 5 additional higher-grade readings.
Week 6 : 19 August - 23 August	Topic	Week 6 = 21 Oct T&E management. Read course notes Chapter 6, review the lecture on T&E management and read Chapter 6 of the Grech et al. (2019) textbook. Check Moodle site for Section 6 additional higher-grade readings, especially Chapter 16 of Gorod et al. (2019).
Week 7 : 9 September - 13 September	Group Work	Week 7 = 28 Oct Commence group assignment work and tutoring.
Week 8 : 16 September - 20 September	Group Work	Week 8 = 4 Nov Continue group assignment.
Week 9 : 23 September - 27 September	Group Work	Week 9 = 11 Nov Complete group assignment and tutoring, due 17 Nov.
Week 10 : 30 September - 4 October	Project	Week 10 = 18 Nov. Commence Individual Planning Extension.
Week 11 : 7 October - 11 October	Project	Week 11 = 25 Nov Continue Individual Assignment
Week 12 : 14 October - 18 October	Project	Week 12 = 2 Dec Complete Individual Planning Extension - Submit 8 Dec.
Week 13 : 21 October - 25 October	Other	Week 13 = 9 Dec. Spare for special consideration cases and grading.

## Attendance Requirements

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

## General Schedule Information

Students spend the first seven weeks gaining basic knowledge through lectures, course notes (six chapters download from Moodle), the Lee et al. (2017) textbook and some supplied readings. Lectures are generally every Monday evening from 1900-2000 hours on Blackboard Collaborate (via Moodle Page) until group work starts. A group planning exercise with tutoring dominates three weeks in November and has an individual assignment extension in the final

three weeks of the Semester.

# Course Resources

## Prescribed Resources

### Compulsory Texts

- Grech, M. R., Horberry, T. J. & Koester, T. (2019) Human Factors in the Maritime Domain, CRC Press

## Recommended Resources

### Recommended Readings

- Eds. Alex Gorod, Leonie Hallo, Vernon Ireland, Indra Gunawan (2019) Evolving Toolbox for Complex Project Management, CRC Press, Taylor & Francis Group, Auerbach, ISBN 9780429197079 (*Chapter 16 provided*)
- Lee, J. D., Wickens, C. D., Liu, Y., Boyle, L. N. (2017) Designing for People: An Introduction to Human Factors Engineering, 3rd Ed, ISBN-13 978-1539808008 (2<sup>nd</sup> Edition if necessary)
- D.Walden et al (eds) (2015). Systems Engineering Handbook, 4th Ed., Wiley, INCOSE-TP-2003-002-04
- Journal of the International T&E Association (ITEA) (access explained on Moodle Page)

## Additional Costs

Nil.

## 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

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Keith Joiner		Building 21, Room 363	0499202284	Email initially	No	Yes
Tutor	David Coleman				Email initially	No	No
	Alice Paton				Email initially	No	No
	Britt Levett				Email initially	No	No

## Other Useful Information

### School-specific Information

#### The Learning Management System

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 semester. Please find all help and documentation (including Blackboard Collaborate) at 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 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](mailto: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](mailto: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 Community, 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](mailto:e.henekankanamge@adfa.edu.au)

T: 02 5114 5157

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