SCIE3001: Transdisciplinary Capstone
Callaghan and Ourimbah
Semester 1 - 2024

COURSE OUTLINE

OVERVIEW

Course Description
This course is for those who want to further develop the knowledge and skills they have gained in their degree to impact the real world now and in their future career. This course will see you create value on a real project by developing an evidence-based, sustainable, business case for an external client. The collaborative style of this course will see you and peers actively partnering your own learning with a broad range of expertise, evidence and experience. Most critically, this course will give you on-the-ground experience working on real-world complex problems. Complex problems are often called 'wicked' problems: typically, they are high stakes and resist solution, and even resist agreed definition. Think climate change, biodiversity loss, the obesity epidemic, poverty and antibiotic resistance. The skills needed to work on complex problems are no longer a luxury. They are now considered essential for university graduates. Graduates who seek to resolve complex problems will work in transdisciplinary teams using methods that work with, rather than ignore, complexity. You will learn how to be an agile member of a dynamic team, contributing your disciplinary expertise, and developing your transferable skills as you do. In doing so you will evidence new skills and leadership qualities. The evidence-based approach you learn will be equally relevant for working in industry, undertaking applied research, applying for research grants or creating your own entrepreneurial business. Service to our university's community will mean you can graduate from university already demonstrating your experience in addressing the big, challenging issues of our time.

Academic Progress Requirements
Nil

Requisites
Students must have successfully completed SCIE2002 or SCIE2003.
This course replaces SCIE3001A and SCIE3001B. If you have successfully completed both those courses you cannot enrol in this course.

Contact Hours
Callaghan
Online Activity
Online
3 hour(s) per week(s) for 13 week(s) starting Week 1

Workshop
Face to Face On Campus
2 hour(s) per week(s) for 13 week(s) starting Week 1

Ourimbah
Online Activity
Online
3 hour(s) per week(s) for 13 week(s) starting Week 1

Workshop
Face to Face On Campus
2 hour(s) per week(s) for 13 week(s) starting Week 1

Unit Weighting   10

Workload   Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

CONTACTS

Course Coordinator   **Callaghan and Ourimbah**
Dr Bonnie McBain
Bonnie.Mcbain@newcastle.edu.au
(02) 4921 8871
Consultation: Please email to make an appointment.

Teaching Staff   Other teaching staff will be advised on the course Canvas site.

School Office   **School of Environmental and Life Sciences**
Room C228 Chemistry Building
Callaghan
CESE-SELS@newcastle.edu.au
(02) 4921 5080
9am-5pm (Mon-Fri)

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SO-104 Science Offices
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(02) 4349 4568 / 4348 4115
9am-5pm (Mon-Fri)

SYLLABUS

Course Content   Topics to be covered include:

- Distinguishing and defining complex problems
- Planning and undertaking a practical project using an evidence-based approach
- Working as part of a transdisciplinary team
- Refining writings skills
- Communicating research findings to clients and stakeholder audiences
- Ensuring your practice is ethical, responds to complexity and contributes to the United Nations' Sustainable Development Goals.

Course Learning Outcomes   **On successful completion of this course, students will be able to:**

1. Communicate what makes a challenge or problem complex.

2. Plan, develop and report on a project investigating a complex challenge, and propose and communicate evidence-based, ethical and sustainable outcomes.

3. Articulate the skills required for transdisciplinary work and employability.

4. Work independently and as part of a team within a workplace environment.

5. Critically reflect on the ethical and technical issues faced in the workplace.

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Contact Hour Requirements:
- Workshop: Students must attend 80% of sessions.

SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	26 Feb	Welcome to SCIE3001	Online course materials and workshop	
2	4 Mar	Transdisciplinary Challenge begins	Online course materials and workshop	
3	11 Mar	Exploring Options	Online course materials and workshop	
4	18 Mar	Working with Outliers	Online course materials and workshop	
5	25 Mar	Evaluating Options	Online course materials and workshop	
6	1 Apr	Evaluating Value Creation Options	Online course materials and workshop	Teamwork Project Preparation due
7	8 Apr	Summarising Value Creation Options	Online course materials and workshop	
Mid-Semester Recess				
Mid-Semester Recess				
8	29 Apr	Sprint	Online course materials and workshop	
9	6 May	Sprint	Online course materials and workshop	
10	13 May	Sprint	Online course materials and workshop	
11	20 May	Fine-tuning Report	Online course materials and workshop	Final report due
12	27 May	Presenting your Project and Skills	Online course materials and workshop	
13	3 Jun	Presenting your Project and Skills	Online course materials and workshop	Presentation due
Examination Period				
Examination Period				

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Teamwork Project Preparation	Hurdle tasks are due in weeks 2-6, the final document is due end of Week 6, 7/4/24.	Individual	30%	1, 2, 3, 4
2	Final Report	Hurdle tasks are due in weeks 7-11 & final report due end of Week 11, 26/05/24.	Group	50%	1, 2, 5
3	Presentation	9/6/24	Individual	20%	1, 2, 3, 5

Late Submissions	The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Teamwork Project Preparation

Assessment Type	Written Assignment
Purpose	The teamwork project preparation allows you to develop the background information on which the team project can capitalise.
Description	The team project preparation consists of an analysis and synthesis of the literature in relation to the complexity of at least one aspect of your team project.
Weighting	30%
Length	1000 words
Due Date	Hurdle tasks are due in weeks 2-6, the final document is due end of Week 6, 7/4/24.
Submission Method	Online Canvas
Assessment Criteria	Assessment criteria are detailed in the Assessment section of the Canvas course site.
Return Method	Online
Feedback Provided	Online - 21/4/24. Will include a rubric, in-text editorial suggestions and summary comments.
Opportunity to Reattempt	Students WILL NOT be given the opportunity to reattempt this assessment.

Assessment 2 - Final Report

Assessment Type	Report
Purpose	The purpose of the report is to produce evidence-based recommendations for your client.
Description	The team report is the culmination of all your work in this subject. It will be a portfolio piece that you can share with prospective employers, demonstrating your skills.
Weighting	50%
Length	1000 words per team member
Due Date	Hurdle tasks are due in weeks 7-11 & final report due end of Week 11, 26/05/24.
Submission Method	Online Canvas
Assessment Criteria	Assessment criteria are detailed in the Assessment section of the Canvas course site.
Return Method	Online
Feedback Provided	Online - 9/6/24. Will include in-text editorial suggestions and summary comments.
Opportunity to Reattempt	Students WILL NOT be given the opportunity to reattempt this assessment.

Assessment 3 - Presentation

Assessment Type	Presentation
Purpose	The purpose of this task is to describe your challenge, tell the story of your transdisciplinary learning journey and outline your project outcomes through digital storytelling or a face-to-face presentation.
Description	The presentation supports you to communicate your skills and experience to prospective employers or supervisors.
Weighting	20%
Length	3 minutes
Due Date	9/6/24
Submission Method	Online Canvas
Assessment Criteria	Assessment criteria are detailed in the Assessment section of the Canvas course site.
Return Method	Online
Feedback Provided	Online - 14/6/24. Will include a rubric and summary feedback.
Opportunity to Reattempt	Students WILL NOT be given the opportunity to reattempt this assessment.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Attendance

Attendance/participation will be recorded in the following components:
- Workshop (Method of recording: Manual, hardcopy attendance sheet in class.)

There is a mandatory 80% requirement for all workshops.

WH&S Requirements

On a case-by-case basis as required.

Communication Methods

Communication methods used in this course include:
- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face to face meetings or supervision.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement. Survey results, Course data on student success, Canvas course site analytics External review of the BSc & Industry feedback.

As a result of student feedback, the following changes have been made to this offering of the course:
- New curriculum training students on the responsible use of Chat GPT
- Support material and the rubric for the Presentation assessment has been amended

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure. In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule.

Academic Misconduct	All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35.
Adverse Circumstances	The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where: 1. the assessment item is a major assessment item; or 2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system; 3. you are requesting a change of placement; or 4. the course has a compulsory attendance requirement. Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at https://policies.newcastle.edu.au/document/view-current.php?id=236
Important Policy Information	The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.
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