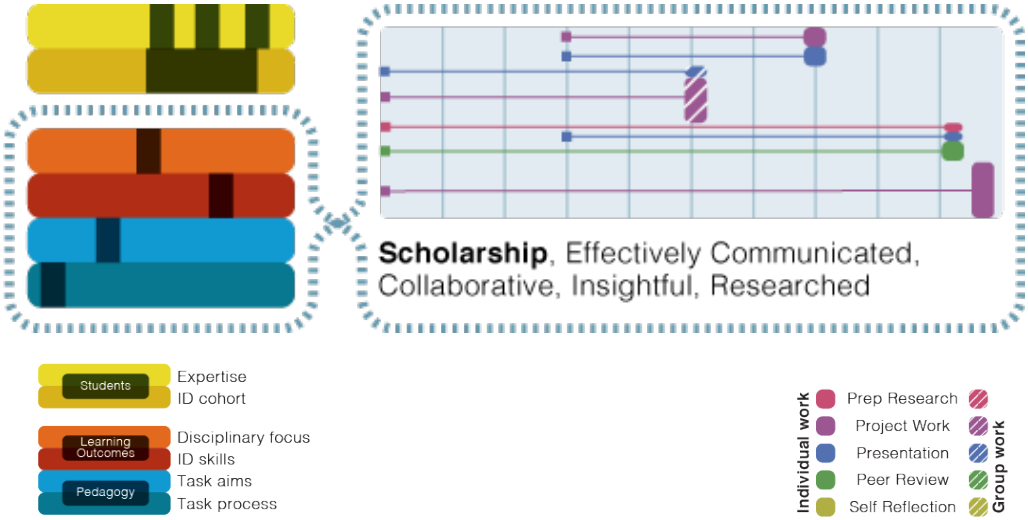
MM25

Australia National University
Unravelling Complexity

multiplemeasures.org.au



SUMMARY FOR BENCHMARKING

How well is interdisciplinary learning supported by the assessment design?

Unit/subject/course brings together advanced students from a range of disciplines. It supports their peer led investigation of the gaps and opportunities between disciplines, in order innovatively to address complex problems.

How well does the assessment design fit the ID cohort?

Does it fit the level of *student expertise*?
Well scaffolded, well-resourced unit/subject/course designed for delivery to advanced level students. The unit/subject/course aims to assist students to develop and extend high level ID approaches.

Does it respond to the *range and style of cohort learning expectations*?
'Balanced' approach to learning culture enables broad access by students already engaged with a wide range of disciplinary studies. The focus is on shared concerns and integration of multiple perspectives in response to a shared complex problem. The unit/subject/course and is supported by university frameworks that allow intake from across faculties.

How well does the assessment design align to intended ID learning outcomes?

Do the *tasks and criteria* sufficiently support development of students' *disciplinary practices* ?

Multidisciplinary focus draws on an already advanced knowledge base. Key focus is on ID rather than disciplinary skills.

Do the *tasks and criteria* sufficiently support development of students' *interdisciplinary skills* ?

Multidisciplinary exposure expands broad ID competencies, including the ability to undertake critique across discipline boundaries. The development of negotiated ID responses to complex problems opens these skills further, and the development of assessment criteria with a focus on multiple perspectives highlights the significance of this.

Do the student and staff roles influencing the *direction / aims* of the tasks support the ID learning outcomes?

Strong student leadership: tailored group project is developed within broad framework delivered and supported by staff. Significant input of staff perspectives are also provided by the inclusion of senior academics, providing insight to the range of approaches that might be taken to complex problems and the values that might be applied to identify 'success'.

Do the student and staff roles influencing the *process / development* of the tasks support ID learning outcomes? Process of development and outcome is almost entirely directed by these advanced year level students, working in-group context. Strong emphasis on peer feedback and individual reflection that considers a range of perspectives.

This summary draws on interview data collected through the **Multiple Measures** project, as well as materials produced by academics developing this unit/course/subject.
The **Multiple Measures** project was funded by the Australian Government Office for Learning and Teaching

UNIT/SUBJECT/COURSE OUTLINE + OUTCOMES

Latter year students from any faculty of the university are welcomed to join this unit. The unit will give students the opportunity to explore a series of complex issues. The connections between economic, historical, social, legal, scientific, engineering, environmental and moral dimensions of complex problems will be explored.

Academics and professionals will share their experience and provide case studies of complex problem solving in action through weekly seminars. Students will work in an interdisciplinary team to unravel a complex issue and deliver a policy response. Students will also work in an academic environment to provide peer review on student work and to enhance their own research project.

Learning Outcomes:

- Identify and generalise archetypical behaviours in complex problems
- Provide and situate disciplinary perspectives and methodologies in an interdisciplinary team
- Analyse and construct arguments from multiple perspectives, supported by evidence and with intellectual independence
- Reflect critically on theory from the course by connecting personal experiences and/or real-world situations
- Design, research and defend a learning portfolio unravelling a complex (/legal) problem

UNIT/SUBJECT/COURSE ACTIVITIES & ASSESSMENT TASKS

Tutorial Co-Facilitation (20%) Run a tutorial for your peers includes the following assessment tasks; Secret Plan (10%) & Tutorial Co-facilitation (10%)
Group Research Project (30%) Unravel a complex problem includes the following assessment tasks; 3-min Presentation (5%) & Final artifact (25%). Groups will be able to explore their own topic, in consultation with the tutor. The project topic should be a cross-sector problem based on an issue arising from the Australia 2020 summit.
Research Portfolio & Peer Review (50%) Research and reflect on a complex problem includes the following assessment tasks; Tutorial Tickets (5%), Peer Review x 3 (10%), 3-min Presentation (5%) and a Final Portfolio (30%). The portfolio should demonstrate creative and convincing research about the chosen complex problem, and can extend to personal reflections.

ASSESSMENT CRITERIA / MARKING

- Encourages high quality discussion/exchange of ideas
- Effectively relating the tutorial to the course themes in a way that maximises student learning maintaining clarity and logical progressions of ideas to an effective conclusion
- Ability to respond well to questions including the explanation of concepts
- Demonstrate learning from other problems in the approach and negotiation of your problem
- Demonstrate alternative perspectives to explain and unravel the complex problem
- Construct insightful arguments based on evidence from multiple perspectives
- Tether the project to themes from the course, and other personal experience
- Demonstrate scholarship and research in the investigation of the complex problem
- Research the history of the problem and similar problems, and connect these lessons learnt to the current problem
- Demonstrate alternative disciplinary viewpoints to arguments to holistically unravel the complex problem
- Construct insightful arguments based on evidence from multiple perspectives
- Reflect critically on theory from the course by connecting personal experiences and/or real-world situations
- Demonstrate scholarship and research in the investigation of the complex problem

This summary draws on interview data collected through the **Multiple Measures** project, as well as materials produced by academics developing this unit/course/subject.
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Unravelling Complexity

VCUG3001/LAWS4001/VCPG6001

Semester 1 2015

Course Guide

Useful links

“Universities serve to make students think:
to resolve problems by argument supported by evidence;
not to be dismayed by complexity, but bold in unravelling it’.
- What are universities for? by Geoffrey Boulton and Colin Lucas.

The first week of student-facilitated tutorials (photo by Shayne Flint)

Tables

1 COURSE ADMINISTRATION

1.1 Introduction

Unravelling Complexity takes up this challenge by offering latter year students from any part of the ANU the opportunity to explore a series of complex issues. The connections between economic, historical, social, legal, scientific, engineering, environmental and moral dimensions of complex problems will be explored.

Academics and professionals will share their experience and provide case studies of complex problem solving in action through weekly seminars. Students will work in an interdisciplinary team to unravel a complex issue and deliver a policy response. Students will also work in an academic environment to provide peer review on student work and to enhance their own research project.

1.3 Learning Outcomes

LO1 Identify and generalise archetypical behaviours in complex problems

LO2 Provide and situate disciplinary perspectives and methodologies in an interdisciplinary team

LO3 Analyse and construct arguments from multiple perspectives, supported by evidence and with intellectual independence

LO4 Reflect critically on theory from the course by connecting personal experiences and/or real-world situations

LO5 Design, research and defend a learning portfolio unravelling a complex(/legal) problem

1.4 Learning Activities

Face-to-face activities

Panels – 11am to 1pm, Tuesdays in the Frank Fenner seminar room, Building 141 Daley Road. Please come to the panel having done the topic's reading.

Tutorials – 9am-11am, 11am-1pm in Forestry 101, Building 48. Please come to the panel having done your tutorial ticket.

Workshops - Only attend to prepare for your facilitation… 1) 10am to 11am, Tuesdays in Forestry 108a (the week before your tutorial facilitation, please come having read the topic material and completed workshop ticket). 2) 1-2pm, after the topic panel to cement your secret plan.

Online activities

Tutorial Tickets - tutorial tickets need to be submitted on Wattle before tutorials each week. These build up into part of your learning portfolio.

1.5 Expected Workload

You are expected to engage in the course and the materials for approximately 10 hours per week, made up of:

Face-to-face activities

Panels - 2 hours (weeks 1-13)
Tutorials - 2 hours (weeks 2-12)
Workshops 1 hour (the week before your tute)

Independent/group work

Group project work - at least 2 hours per week outside tutorials is expected

Individual research and reflection - 4 hours per week is expected, to cover the course material and extended research tasks

Group Project (required) this will occur in the final group presentation tutorial. Moderation will apply to all group project assessment, unless otherwise stated by the group (eg, person A helped a lot during semester, but we didn't see them whilst preparing the final reports)

The course convener will override group evaluation if deemed necessary, in consultation with your tutor. This highlights the importance of working well both as a group, and within your group.

1.7 Feedback, comments & marks

Feedback is widely misunderstood concept in education. I see feedback as a systems process that *drives* behaviour (formative feedback), rather than being the the result of assessed work (summative feedback).

In this course, there are many formal and informal processes to collect formative feedback to help submit the best work you can. These include regular opportunities with your tutor and with Chris for specific feedback, and most assessment items are staged so that you can receive feedback as you go. You should also make the most of informal feedback, such as through other members of your group and former students.

When marks are returned, they will be accompanied with minimal summative feedback to justify the mark. You are welcome to ask your marker for more feedback if you would like or need.

1.8 Group & peer evaluation/marking

Peer evaluation and comments are a part of group work: in this case, the Group Project and Tutorial Facilitation.

On occasion, not all members of a group contribute equally to the the work required, or not all members have the same expectations of standards. There is a moderation process available to provide recognition when required:

Tutorial Co-facilitation (voluntary) talk to your tutor upon the completion of your tutorial if your group requires this

1.15 Suggested reading

Complexity is a fascinating area of study. Many students find that you start seeing complexity everywhere.

There is no prescribed textbook for this course. You should be able to complete this course using the materials and selected readings made available through the Resources Directory.

Bammer, Gabriele and Michael Smithson 2008, Uncertainty and risk: multidisciplinary perspectives, Earthscan
Recommended: Chapters 2 and 26

Bar-Yam, Yaneer 2004, Making things work: solving complex problems in a complex world, NECSI Knowledge Press *Recommended: Overview, Chapter 1 and conclusion*

Brown, Valerie A., John A. Harris, Jacqueline Y Russell 2010, Tackling wicked problems through the transdisciplinary imagination, Earthscan
Recommended: Chapters 1 and 2

Harris, Graham 2007, Seeking sustainability in an age of complexity, Cambridge University Press
Recommended: Preamble, chapters 1 and 2

Mitchell, Melanie 2009 Complexity a guided tour, Oxford University Press
Recommended: Preface, chapter 1

Lineweaver, Charley, 2013, Complexity and the Arrow of Time.

2 ASSESSMENT

The assessment is divided into three categories, but is made up of multiple tasks to facilitate engagement and continuous improvement throughout the course. There is no end-of-semester examination.

2.1 Summary of Assessment Tasks

Table 1: Summary of assessment tasks

Item	Mark	Marker	Due	Marks returned
Tutorial Co-Facilitation (20%)				*Run a tutorial for your peers*
Secret Plan	10%	Tutor	1x, in weeks 4-10	at following tutorial
Tutorial Co-facilitation	10%			
Group Research Project (30%)				*Unravel a complex problem*
3-min Presentation	5%	Tutor/Chris	Week 8 tutorial	at/by following tutorial
Final artefact	25%		by Week 8 tutorial	
Research Portfolio & Peer Review (50%)				*Research and reflect on a complex problem*
Portfolio Proposal	required	Tutor	end of Week 7 on Wattle	topic approval
Draft Portfolio	required	N/A	Monday **10am** week 12	N/A
Tutorial Tickets	5%	Chris	Before each tutorial	end of Week 10
Peer Review x 3	10%		Friday week 12	Monday week 13
3-min Presentation	5%	Tutor/Chris	during Week 12 tutorial	end of Week 12
Final Portfolio	30%		Friday week 13	end of exam period

Creativity in assessment

Although there are guidelines in the assessment detailed here, you are absolutely encourage to be creative in your approach, presentation or methods. Please talk to your tutor about how this might look.

2.2 LAWS4001 Variation

Law students undertaking LAWS4001 must explore a complex issue that has a strong legal element in their Research Portfolio, but are still encouraged to apply perspectives from other topics the course to this issue.

2.3 VCPG6001 Variation

Postgraduate students will be asked to complete a more intensively researched Research Portfolio.

2.4 Tutorial Co-facilitation & Secret Plan

During the course, every student is required to co-facilitate one tutorial.

Activities

Workshop Preparation – required, not marked

Please complete the reading for the week and individually prepare an idea for how you can run the tutorial (including any further resources). This should be sketched out on no more than an A4 piece of paper.

Workshop A – required, not marked

Facilitators need to attend a workshop 10-11am run by Chris one week before the panel to discuss and develop your tutorial. In this session, we'll begin to develop your Secret Plan, and prompting question for the tutorial to consider.

Focus Question (Tutorial Ticket) Forum

Please give these to Chris by the end of Workshop A to post on Wattle. You will explain your focus question and any other resources you would like your classmates to engage with at the end of the preceding tutorial.

Secret Plan 10%

Your secret plan is your guide for running the tutorial. This should be developed collaboratively, and you have the opportunity to discuss your draft plan after the panels (1-2pm) with Chris. Submit your plan to your tutor on arrival at your facilitated tutorial.

Tutorial Facilitation 10%

Maximise your classmate's learning in a tutorial. Co-facilitators will get equal marks unless issues are raised with your tutor. You should aim to draw connections from the reading and the panel, and develop an engaging learning environment. Your tutor will seek feedback from your classmates.

Reflection - part of your portfolio(?)

Take the time to reflect on your experience as a facilitator of knowledge. Can you connect this experience to your portfolio topic?

Requirements

Run a tutorial for 80-90 minutes to extend your peers on the week's topic. There are no formal requirements for what to include in your tutorial, but the tutorial should be engaging and informative.

A suggested format for your tutorial is (see the handout here in §4.4):

- an ice-breaker activity to orientate the class
- an introductory activity or introduction to theoretical concepts to create a shared understanding
- an active learning activity that highlights aspects of the theoretical concepts
- a discussion or extension to this activity
- conclusion, take-home message, or evaluation

Assessment Criteria

A task of the first tutorial will be to discuss what makes an effective facilitation and to discuss criteria that will influence how tutors assess each facilitation.

These criteria apply to both the Secret Plan and Facilitation. All criteria weighted equally:

- encourages high quality discussion/ exchange of ideas
- effectively relating the tutorial to the course themes in a way that maximises student learning
- maintaining clarity and logical progressions of ideas to an effective conclusion
- clear instructions that assist in achieving above points
- ability to respond well to questions including the explanation of concepts

A marking rubric for the assessment is available in §4.1.

Feedback

General feedback will be given at the tutorial, followed by the formal feedback with marks in the following tutorial.

Assessment Resources

An example secret plan can be found in §4.4. It is recommended that further detail is added to this example plan.

2.5 Group Research Project

The Group Research Project is a key learning and assessment task for the course. It will be used in the first half of the course to develop achievement of the learning outcomes.

Overview

Your task is to explore a complex problem, and suggest a possible future. The final submission should be accessible to an educated person with little or no knowledge of the topic.

Activities

Week 3 Roundtable (not assessed).

The Roundtable will be a workshop run by your tutor to help define your group's thinking to the rest of your tutorial in a constructive environment.

Expert Interviews (required)

A requirement of this assessment is to organise and interview two experts from different disciplines around your topic. This will likely be an ANU academic, but could be from outside the university. Your group may wish to organise an interview earlier or later in the process, but it will be up to your group to organise. Your tutor and Chris can help if you're stuck.

Presentation – Week 8 Tutorials (5%)

A 3-minute presentation of the problem that you have identified (creativity encouraged).

Final Artefact – by Week 8 Tutorials (25%)

The final artefact will be made up of three parts:

Layman's explanation (10%) a 750-word layman's explanation of the knowledge that you've examined. This could include an explanation of why, where and how this knowledge has evolved or why it's important to the body of knowledge. The best explanations will be forwarded to Woroni for publication.

Expert summary (5%) a 500-word summary of the findings from the expert interview, and how that has influenced your group's understanding of the knowledge. This could be supplemented with your notes from the interview.

Complexity explained (10%) a piece of modern knowledge that can be used to spread awareness of this knowledge. This could be a video, podcast, zine, article, Wikipedia-style page, infographic, smartphone app, instructable, travel guide, etc. As a indication on length, it's expected that this knowledge could be 'consumed' in 5 minutes.

Project Topics

Groups will be able to explore their own topic, in consultation with their tutor and Chris. The project topic should be a cross-sector problem based on an issue arising from the Australia 2020 summit.

Assistance can be offered to groups who are having trouble defining an appropriate topic - just ask!

Peer Evaluation and Moderation

Your individual mark for the group project will be determined by first awarding a group mark against the marking criteria. Your group will be asked in the Week 3 Roundtable to devise a process of peer evaluation to be used to determine any adjustments to reflect contribution to the project.

Submission

Submit a digital copy of your final artefact on Wattle. If your chosen presentation format is better demonstrated through a hard-copy submission, please get in touch with Chris.

Assessment Criteria

The group will be awarded a mark based on these criteria (all marking criteria are applied equally):

LO1 Demonstrate learning from other problems in the approach and negotiation of your problem
LO2 Demonstrate alternative perspectives to explain and unravel the complex problem
LO3 Construct insightful arguments based on evidence from multiple perspectives
LO4 Tether the project to themes from the course, and other personal experience
LO5 Demonstrate scholarship and research in the investigation of the complex problem

A marking rubric for the assessment is available in §4.2.

2.6 Research Portfolio & Peer Review

Analyse a contemporary complex problem in depth, using the themes from within the course and drawing connections and reflections from outside of the course.

Activities

Portfolio Proposal - on Wattle

Submit your plan for your portfolio on Wattle using the form. Your tutor will highlight any potential issues with you in Week 7. You will be prompted to include a problem statement, and provide an outline on how you plan to achieve the marking criteria.

NOTE: LAWS4001 students may have their topic selection approved by the College of Law at this point to ensure that it will sufficiently engage with legal content.

Draft portfolio - on Wattle

Submit a draft as best you can by Monday 10am Week 12 on Wattle. This will be peer reviewed.

Tutorial Tickets (5%) - on Wattle

Tutorial tickets are an approximately 200-word discussion/reflection/opinion completed before attending tutorials in week 2-10. They are a 'ticket' for entry, and students having not completed their tickets will be asked to leave and do so before entry. Tickets should help the facilitators prepare for their tutorial, and should help you think about your portfolio topic.

Marks will be averaged over all tutorials, and scaled to be out of 5.

- Full marks will be awarded for satisfactory tickets
- Half marks will be awarded for satisfactory tickets that are late but submitted before the end of the topic week
- No marks will be awarded for unsatisfactory or significantly late tickets

Peer Review x 3 - on Wattle

Provide peer review for your peers on their portfolio. High-level comments should be made against each of the marking criteria in order to assist the author improve their work. Marks will awarded according to how useful the comments appear to be for the author.

3-minute Presentation - in Tutorials

Explain your complex problem to your classmates in no more than 3 minutes. If you choose to use slides, you may only use one (1). You should clearly communicate your ideas, and be prepared for Q&A. These will be recorded.

Research Portfolio

The portfolio should demonstrate creative and convincing research about the chosen complex problem, and can extend to personal reflections.

As a guide, portfolios should be able to be consumed and understood in 15 minutes, regardless of format. A guide if you were writing a report or essay would be between 15-20 pages or 2,500-3,000 words.

Research Portfolio format

You are free to present your ideas as you see best fit. There are great examples of student work that could provide ideas about the format of your portfolio (but keep in mind that your marking criteria is different). Alternative presentation formats are encouraged. For example, visual diary, blog, photo journal, video series, critical essay, travel guide, radio documentary, collection of interviews or letters, etc.

Assessment Criteria

The group will be awarded a mark based on these criteria (all marking criteria are applied equally):

LO1 Research the history of the problem and similar problems, and connect these lessons learnt to the current problem

LO2 Demonstrate alternative disciplinary viewpoints to arguments to holistically unravel the complex problem

LO3 Construct insightful arguments based on evidence from multiple perspectives

LO4 Reflect critically on theory from the course by connecting personal experiences and/or real-world situations

LO5 Demonstrate scholarship and research in the investigation of the complex problem

VCPG6001 students are required to produce a research-intensive Portfolio.

A marking rubric for the assessment is available in §4.3.

3 COURSE SCHEDULE

1 What are universities for?
Panel: Tue 17 Feb: Prof. Marnie Hughes-Warrington and Prof. Richard Baker
No tutorials

2 Complex problems
Panel: Tue 24 Feb: Dr Steven Cork (Crawford School)
Tutorial Thu 26 Feb: Introductions and groups

3 Complexity in systems
Panel: Tue 3 Mar: Dr Shayne Flint (RSCompSci) and Prof. Lindell Bromham (RSBiology)
Tutorial Thu 5 Mar: run by your tutor on systems Tue 3 Mar: Space workshop

4 Complexity in space
Panel: Tue 10 Mar: Dr Joan Licata (MSI) and Dr Paul Francis (RSPhysEng)
Tutorial Thu 12 Mar: student-run tutorial on complexity in space Tue 10 Mar: Narratives workshop

5 Complex narratives
Panel: Tue 17 Mar: Prof. Matthew Gray (CAEPR) and Jane O'Dwyer (SCAPA)
Tutorial Thu 19 Mar: student-run tutorial on complex narratives Tue 17 Mar: Visualising workshop

6 Visualising complexity
Panel: Tue 24 Mar: Niklavs Rubenis (SoA) and Dr Julie Brooke (MSI)
Tutorial Thu 26 Mar: student-run on visualising complexity Tue 24 Mar: Society workshop

7 Complexity in society
Panel: Tue 31 Mar: Prof. Mike Smithson (RSPsyc)
Tutorial Thu 2 Apr: student-run on complexity in society No workshop

BREAK

8 Framing complex problems
Panel: Tue 21 Apr: Dr Barry Newell (FSES) and Dr Katrina Proust (FSES)
Tutorial Thu 23-Apr: Group project presentations Tue 21 Apr: Identity workshop

9 Complex identities
Panel: Tue 28 Apr: Prof. Joan Beaumont (SDSC) and Prof. Gabrielle Bammer (NCEPH)
Tutorial Thu 30 Apr: student-run on student topic Tue 28 Apr: Universe workshop

10 Complexity and the arrow of time (Universe)
Panel: Tue 5 May: Dr. Charley Lineweaver (Planetary Science Institute)
Tutorial Thu 7 May: student-run on the universe

11 Scenario planning
Panel: Tue 12 May: Ms Annette Zou (ThinkPlace)
No tutorials - prepare for your presentation!

12 Students' Choice: Contemporary complex problems
Panel: Tue 19 May: Students to determine topic and invite guests
Tutorial: Portfolio presentations

13 End of semester picnic
Panel: Tue 26 May (location TBA)
No tutorial

4 APPENDIX

4.1 Marking Guide for Tutorial Co-facilitation and Secret Plan

The tutorial facilitation and secret plan will be marked against the demonstration of:

1. encourages high quality discussion/exchange of ideas
2. effectively relating the tutorial to the course themes in a way that maximises student learning
3. maintaining clarity and logical progressions of ideas to an effective conclusion
4. clear instructions that assist in achieving above points
5. ability to respond well to questions including the explanation of concepts

The following rubric is an indication of the types of attributes expected when marking:

	Adequate (P/CR)	**(One way to be...) Outstanding (HD)**
1	Discussion is forced and difficult. Preparation beyond the course material not apparent	Outstanding activities that will clearly help peers to use the topic in creative ways in their portfolios. Integrates theory from other topics
2	Course themes touched on, but concepts not clearly explained	Facilitators demonstrably inspire students to contribute to discussion and apply the topic in clear and creative ways
3	Progression of ideas makes sense, and there is a conclusion	Incredible. A memorable learning experience. Conclusions draw threads of the tutorial together
4	Instructions are provided to assist students.	Instructions are thoughtfully preempted so that there is no doubt with participants what the goal of the activity or task is
5	Concepts explained well in response to questions	Concepts are explained so that students from all backgrounds can easily relate to the ideas. Questions arising from activities challenge students.

4.2 Marking Guide for Group Research Project

The group research project will be marked against the demonstration of:

LO1 Demonstrate learning from other problems in the approach and negotiation of your problem
LO2 Demonstrate alternative perspectives to explain and unravel the complex problem
LO3 Construct insightful arguments based on evidence from multiple perspectives
LO4 Tether the project to themes from the course, and other personal experience
LO5 Demonstrate scholarship and research in the investigation of the complex problem

The following rubric is an indication of the types of attributes expected when marking:

	Adequate (P/CR)	**(One way to be...) Outstanding (HD)**
LO1	Examples drawn from other problems	Researched history and connection to problems that bring new insights into the negotiation of the problem
LO2	Multiple perspectives considered	Multiple viewpoints combined and assimilated into novel ways to explain the problem
LO3	Multiple sources of evidence used to construct arguments	Arguments constructed based on evidence from multiple bodies of knowledge
LO4	Course themes discussed and connected to	Clear connections to your learned experience, and the shared experiences within the course
LO5	Demonstrated research to unravel the problem	High-quality research from primary and secondary sources that extend arguments

4.3 Marking Guide for Research Portfolio

The research portfolio will be marked against the demonstration of:

LO1 Research the history of the problem and similar problems, and connect these lessons learnt to the current problem
LO2 Demonstrate alternative disciplinary viewpoints to arguments to holistically unravel the complex problem
LO3 Construct insightful arguments based on evidence from multiple perspectives
LO4 Reflect critically on theory from the course by connecting personal experiences and/or real-world situations
LO5 Demonstrate scholarship and research in the investigation of the complex problem

The following rubric is an indication of the types of attributes expected when marking:

	Adequate (P/CR)	**(One way to be...) Outstanding (HD)**
LO1	Research from other problems shown in relation to your problem	Researched history and connection to problems that bring new insights into the framing of the problem
LO2	Multiple perspectives considered	Multiple viewpoints combined and assimilated into novel ways to holistically see the problem anew
LO3	Multiple sources of evidence used to construct arguments	Arguments constructed based on evidence from multiple bodies of knowledge
LO4	Course themes reflected on and connected to	Clear connections to your learned experience, and the shared experiences within the course and the world around you
LO5	Demonstrated research to unravel the problem	High-quality research from primary and secondary sources that extend arguments and create new knowledge

Note that the attributes or qualities of a good research portfolio are similar to the group research project

4.4 Example Tutorial Secret Plan

Complex Problems Tutorial - Secret Plan

Goal: create an environment that students feel safe, and want to come back to.

Suggested running order

Time	Item	Resources
5-10m	Complexity Speed Date	Speed date cards
10-30m	What makes a good tutorial?	Whiteboard
30-50m	Assessment orientation	Assessment page
50-55m	Think about how to break up into tutorials/project groups	
55-60m	Break	Tim Tams?
60-75m	Break up into project and facilitation group	
75-100	Wicked problem exercise + discussion	Wicked problem cards

Prompts

Complexity Speed Date

Start the speed date when there are ~6 people, and write up the good tutorial question on the board as people are chatting

What makes a good tutorial?

On the board, write: What makes a good tutorial? What makes a bad tutorial?

- get pairs to discuss, then put two ideas up on each side
- pull out some interesting points and ask the authors to explain their experience

Assessment orientation

Form three groups in the tutorial, and ask each group to explain the three assessment pieces (Portfolio, Project and Facilitation) to the rest of the class.

Give them 10 minutes to explore the detail, and then 5 minutes or so to share with the class. Might be worthwhile having page 4 from the course guide up on the projector.

Emphasise creativity in the assessment.

Breaking up groups

Before the break, explain that we need project groups and facilitation groups, and that we need to work with different people for each. Get people to think about how to break up groups, then have a 5-min break.

After the break, put the tutorial topics up on the whiteboard: space, narratives, visualising, society, NEW TOPIC, Universe (NEW TOPIC will likely have Bammer and Beaumont - haven't thought of a theme topic yet). Assign names to topics (and write this down on paper too!)

Wicked Problems

Have the grid drawn up, and briefly explain the grid. Give small groups a number of cards to place on the grid. After a short discussion, put them up on the board. Select some to ask their rationale.

Lead into a discussion. Pick up on this week's reading (i.e. Black Swans), and whether any of these examples are Black Swans. **Also ask where their tutorial ticket problem might fit.** One useful question here from experience is whether the exercise of categorisation is actually useful (maybe, maybe not).

Housekeeping

Please emphasise:

- creativity in the assessment
- the likely changes to schedule with our speakers availability. Beaumont and Bammer to move to Week 9.
- start to think about a group project topic (inspired from the Australia 2020 list). Groups should have a vague idea on their topics by week 3.
- exchange contact details between groups, etc.