Australian National University

VCUG3001/VCPG6001/LAWS4001 Unravelling Complexity

Semester 1, 2017

Course Guide and Outline
v2017.2

In this guide

Note: this document will be supplemented by a detailed assessment guide and course schedule

1. Course Schedule

This schedule will be superseded by a detailed schedule

Table 1: Indicative Schedule

Wk	Tuesday (Seminar) 11-1 Frank Fenner Seminar Room	Thursday (Seminar) 11-1 Ian Ross Design Studio	Assessment/Notes
PART I: Setting the scene			
1	No classes in Week 1		
2	Classes focussed on introduction to Complexity. Mainly guest speakers for 90 minutes Students will begin to interview chosen academics		Assessment mainly around preparing for student-run workshops and group project
3			
4			
5			
PART II: Complexity Toolkit: Tools for Solving Complex Problems			
6	Student-run workshops		Toolkit development
B1	Time for rest, relaxation (and starting your Group Project!)		
B2			
7	Student-run workshops		Toolkit development
PART III: Spotlight on Complex Issues			
8	Student-facilitated panel on Complex Problems based on the Group Project topics		Group project
9			
10			
11	Portfolio feedback/development and Course wrap-up		Portfolio
12			

Class locations

Seminar (Tuesday)	11am-1pm	Frank Fenner Seminar Room (ground floor) [map]
Seminar (Thursday)	11am-1pm	Ian Ross Design Studio (ground floor) [map]

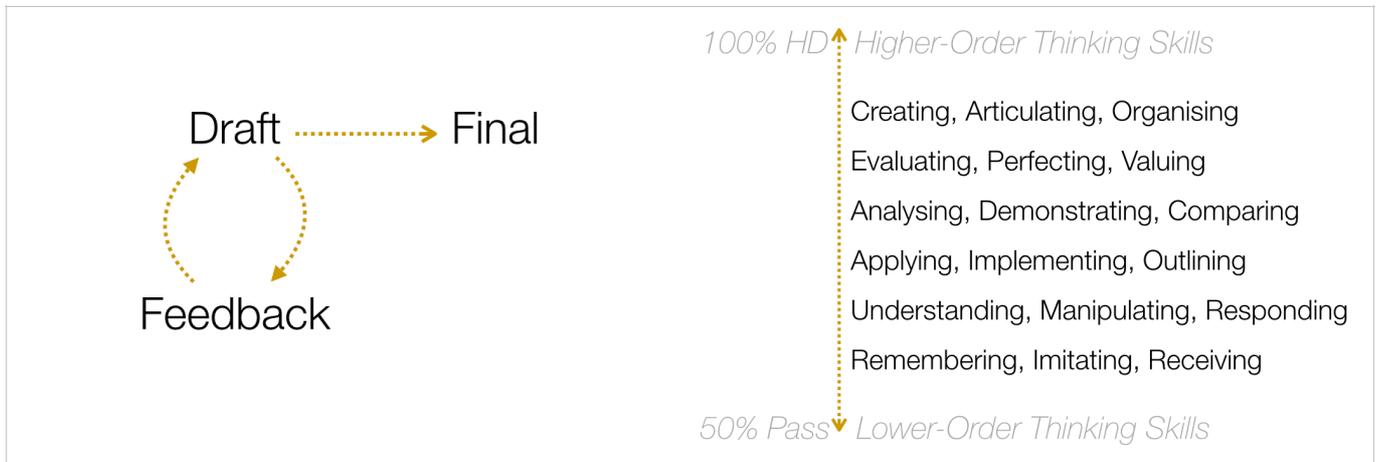Chris' office is in Ian Ross Building [31], up the spiral staircase Rm R210 (map)

Academic Interviews

To prepare for Part II and Part III of the course, each group will interview a range of academics.
These will be at times convenient for you and the academic.

2. Indicative Assessment

The assessment is designed to enable you to be active and creative in your learning

There are two requirements for each assessment task:

100% HD ↑ *Higher-Order Thinking Skills*

Draft ┄┄┄→ Final

Creating, Articulating, Organising

Evaluating, Perfecting, Valuing

Analysing, Demonstrating, Comparing

Feedback

Applying, Implementing, Outlining

Understanding, Manipulating, Responding

Remembering, Imitating, Receiving

50% Pass ↓ *Lower-Order Thinking Skills*

Each assessment has
formative feedback built into it

Each assessment encourages
Higher Order Thinking Skills

Table 2: Indicative Assessment

Item	Mark	Marker	Due	Marks returned
Activity Co-Facilitation (20%)		*Run an activity at the workshop on a topic for your peers*		
Activity co-facilitation x 2	20%	Chris & Peers	Weeks 6 & 7	end of week
including toolkit entries x 2			before seminars/panels	
Group Research Project (35%)		*Investigate a complex problem to improve Australia's role in the SDGs*		
Draft Solutions article	Req	Peers	Mon Week 9	NA
Fireside chat	Req	NA	Weeks 9-10	NA
Peer review comments	5%	Tutors	Fri Week 9	following week
Poster showcase	10%	Chris & tutors	Week 10 (TBA)	end of week
Solutions article	20%	Chris & tutors	Fri wk 10	following week
Research Portfolio (45%)		*Understand a complex problem and reflect on course themes*		
Bring a draft	Req	Peers	Portfolio Workshop	NA
Portfolio showcase	10%	Chris or tutors	Tues wk12	as exams
Portfolio artefact/reflection	35%	Chris & tutors	Fri wk12	as exams

Creativity in assessment

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

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.

VCPG6001 Variation

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

3. Course Administration
The nitty-gritty information about the course

Introduction

Unravelling Complexity takes up the challenge of being bold in unravelling complexity by offering later-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.

Contact

The course convener is Chris Browne from the Research School of Engineering.

E: chris.Browne@anu.edu.au
W: http://users.cecs.anu.edu.au/~u3951377/

I'm always happy to meet any student, any time, just send me an email from your ANU address.

Your tutors can be contacted via their email addresses, shown in Wattle, but please make use of the time that you have face-to-face with them as the main point of contact - their time is precious (as everyone's is)!

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

Learning Activities

Face-to-face activities

There are two full-class seminars a week. These are scheduled for 2 hours each, but we will aim to keep to ~90 minutes of substantive content with a short break.

In weeks 2-5, these will be seminars run by Chris & guests. In weeks 6-7, these will be activities run by students. In weeks 8-10, these will be panel discussions facilitated by students around group project topics.

Academic Interviews

To support the Student-run Workshops and SDG Fireside Chats, we're asking you to interview some of the great academics at ANU about complexity. You will need to go to a minimum of 3 interviews, but you should go to as many interviews as possible.

Online activities

Part of the Student-run Workshop is to build a toolkit entry on the course Wattle page.

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
  4 hours per week. Seminars will be recorded when possible, but the rooms we are in do not have recording facilities
- Academic interviews
  Minimum 3 hours for 3 interviews during weeks ~3 to ~8, but we encourage you to organise and go to more

Independent/group work

- Group project work
  at least 3 hours per week outside tutorials is expected, from weeks 4-10
- Individual research and reflection
  3 hours per week is expected, to cover the course material and assessment tasks

Extensions, penalties and behaviour

As this course is run out of the Research School of Engineering, the relevant rules around word limits, late penalties and special consideration will be applied, in line with the university-wide policies.

Reasonable requests for extensions, special consideration and accessibility will be considered with courteous regard to the due dates. If you have any potential concerns, please talk to Chris (very) early.

Students are bound to the Code of Practice for Student Academic Integrity. This includes provisions and directions on issues such as academic integrity, plagiarism and academic misconduct. All students should be familiar with the Code.

Late submission of assessment tasks without an extension are penalised at the rate of 5% of the possible marks available per working day or part thereof. Late submission of assessment tasks is not accepted after 10 working days after the due date, or on or after the date specified in the course outline for the return of the assessment item. (A complex problem?)

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.

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

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.

Absences

It is expected that you will attend all tutorials - they are the most important part of the course. Tutorials - especially the ones run by your peers - are VERY difficult with low attendance, so please ensure that you can attend throughout the semester.

Marking Issues

If you have a problem with marks for assessment items, there is a process that you can follow to come to a resolution on the issue. It is expected that this process would be followed relatively shortly after receiving your grade:

1. talk to the marker (see Table 2)

2. your marker will provide further comments or clarification if needed

3. if you are still unhappy with the marker's response, you can:

   • ask the course convener to re-mark the assessment - this requires a couple of dot points outlining how your work should be seen against the marking criteria

   • ask the course convener if you can resubmit (typically reserved for failed Individual Research Papers only) - this requires negotiation with the couse convener

4. if you are unhappy with the course convener's response, you can appeal to the Associate Dean (Academic), in consultation with the course convener.

Examiner's Discretion

The course convener has examiner's discretion on your final grade. In principle, no discretion will be exercised unless you are close to a grade boundary - for example, you get 69.75% as a final grade. If you are in this scenario, the course convener will review your individual assessment items and make a decision based on these data. The course convener's decision is final, though you are entitled to appeal your grade according to ANU's policies.

Course improvement

There will be opportunities to provide feedback throughout the course to Chris or your tutors, typically through tutorials

One of the key formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching, and opportunities for improvement.

For more information on student surveys at ANU and reports on the feedback provided on ANU courses, go to:

http://unistats.anu.edu.au/surveys/selt/students/ and

http://unistats.anu.edu.au/surveys/selt/results/learning/

Policies for studying at ANU

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and implement them.

Students are expected to have read the Student Academic Integrity Policy before the commencement of their course.

You can find the University's education policies and an explanatory glossary at:

> http://policies.anu.edu.au/
> Student Assessment (Coursework)
> Student Surveys and Evaluations

Turnitin submissions

The ANU is using Turnitin to enhance student citation and referencing techniques, and to assess assignment submissions as a component of the University's approach to managing Academic Integrity. For additional information regarding Turnitin please visit the ANU Online website. Students may choose not to submit assessment items through Turnitin. In this instance you will be required to submit, alongside the assessment item itself, copies of all references included in the assessment item.

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.

2017.1-2

Adjusted individual assessment percentages to reflect overall percentages