COMM5615 Systems Thinking and Business Dynamics - 2024

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General Course Information

Course Code : COMM5615
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : UNSW Business School
Academic Unit : School of Management and Governance
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Postgraduate
Units of Credit : 6

<u>Useful Links</u>

<u>Handbook</u> <u>Class Timetable</u>

Course Details & Outcomes

Course Description

This course introduces leading edge systems thinking mapping and modelling tools to enhance your ability to diagnose and solve complex business and social problems. You will learn a flexible and powerful approach to structuring managerial problems and visualising the

interconnectedness of business, social and environmental systems. You will develop skills to conceptualise and build simulation models of an enterprise, enabling you to explore the dynamic consequences of different strategy/policy decisions and identify key leverage points in the system. For example, you will build and use simple simulation models to examine the growth dynamics of businesses such as Airbnb, Uber, What'sApp, and Tesla. You will explore a broad application of business and public policy issues including firm growth and stagnation, competitive strategy, capability development and human resource policies, environmental sustainability, and the boom and bust dynamics of start-up businesses. In addition, you will examine cases of organisations that have successfully applied systems thinking and business dynamics.

Relationship to Other Courses

This course is an elective in a number of specialisations in the Master of Commerce (MCom) degree. The course provides an introduction to systems thinking mapping and simulation modelling tools to enhance your ability to design and test strategies that drive business dynamics.

Course Learning Outcomes

Course Learning Outcomes	Program learning outcomes
CLO1 : Recognise and apply the key elements of systems thinking	• PLO1 : Research Excellence • PLO1 : Business Knowledge
CLO2 : Develop and simulate business dynamics models	• PLO1 : Research Excellence • PLO2 : Problem Solving
CLO3 : Conceptualise and map complex business or societal problems	• PLO1 : Business Knowledge • PLO3 : Business Communication • PLO4 : Teamwork
CLO4 : Test and build confidence in systems models	• PLO1 : Research Excellence • PLO2 : Problem Solving • PLO5 : Responsible Business Practice

Course Learning Outcomes	Assessment Item
CLO1 : Recognise and apply the key elements of systems thinking	• Modelling and Policy Analysis • Group Project - Systems thinking and dynamics • Peer Evaluations
CLO2 : Develop and simulate business dynamics models	• Individual project - formulating models
CLO3 : Conceptualise and map complex business or societal problems	• Modelling and Policy Analysis • Group Project - Systems thinking and dynamics • Peer Evaluations
CLO4 : Test and build confidence in systems models	• Group Project - Systems thinking and dynamics • Peer Evaluations

Learning and Teaching Technologies

Moodle - Learning Management System

Learning and Teaching in this course

COMM5615 has been designed to provide you a range of learning experiences, from self-directed to experiential learning, as well as interactive discussions. I encourage student contributions through discussion and class participation that draws on your reading, course activities, and life experiences.

Other Professional Outcomes

The course provides an introduction to systems thinking mapping and simulation modelling tools to enhance your ability to design and test strategies that drive business dynamics. The course aims to help you:

- Understand how self-reinforcing feedbacks drive new business growth, and the adoption of innovations and new ideas.
- Learn to build simple simulation models of business or social problems to test the consequences of alternative strategies.
- Design what-if simulations to explore firm growth and stagnation, self-imposed limits to growth, and the boom and bust dynamics of startup businesses.

Additional Course Information

Approach to Learning and Teaching in the Course

COMM5615 has been designed to provide you with a range of learning experiences, from self-directed to experiential learning, as well as interactive discussions. I encourage student contributions through discussion and class participation that draws on your reading, course activities, and life experiences.

Learning Activities and Teaching Strategies

The delivery of this course follows the format of a weekly 3-hour seminar. You are expected to read the assigned textbook chapters BEFORE each class session. The first half of each weekly seminar will follow a facilitated lecture format and the second half of each weekly session will be in workshop format with students working in small teams to apply the systems thinking and modelling tools we discuss.

The more you participate in the weekly seminar sessions, the more you will enjoy and learn from the course activities. I expect all students to be proactive learners. Successful completion of COMM5615 requires about 10 hours per week of study time. The systems thinking and modelling skills provide a solid foundation for success in your MCom degree and beyond.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates	Program learning outcomes
Individual project - formulating models	30%	Start Date: Not Applicable Due Date: Monday, March 11 by 1 pm (Week 4)	• PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO1 : Research Excellence
Modelling and Policy Analysis	30%	Start Date: Not Applicable Due Date: Monday, April 8 by 1 pm (Week 8)	• PLO1 : Business Knowledge • PLO2 : Problem Solving
Group Project - Systems thinking and dynamics	30%	Start Date: Not Applicable Due Date: Monday, April 29 by 4 pm (Week 11)	• PLO4 : Teamwork • PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO3 : Business Communication
Peer Evaluations	10%	Start Date: Not Applicable Due Date: Wednesday, May 1 by 4 pm (Week 11)	• PLO4 : Teamwork

Assessment Details

Individual project - formulating models

Assessment Overview

Not specified

Course Learning Outcomes

- CLO2 : Develop and simulate business dynamics models

Detailed Assessment Description

The purpose of this assessment is to demonstrate you can apply systems thinking mapping and diagramming tools to develop a dynamic hypothesis to explain behaviour over time. In the first part, you will be given time series data illustrating the dynamics of a company and your task will be to develop and present your dynamic hypothesis as a causal loop diagram that captures the important feedback loops you believe are responsible for generating the reference mode behaviour you are given. In the second part, you will convert each list of variables into the corresponding stock and flow network to map the structure of the system.

Assessment Length

Submit an 8-page (or less) PDF document on Moodle by the due date listed above.

Modelling and Policy Analysis

Assessment Overview

Not specified

Course Learning Outcomes

- CLO1 : Recognise and apply the key elements of systems thinking
- CLO3 : Conceptualise and map complex business or societal problems

Detailed Assessment Description

The purpose of this assessment is to practice building simple system dynamics models and running simulation experiments to test alternative strategies for managing a company. You will recreate a model we discussed in class and then make minor extensions to that model. You will also practice formulating equations and understanding the dynamic behaviour of a system made up of several interlocking feedback loops.

Assessment Length

Submit an 8-page (or less) PDF document on Moodle by the due date listed above.

Group Project - Systems thinking and dynamics

Assessment Overview

Not specified

Course Learning Outcomes

- CLO1 : Recognise and apply the key elements of systems thinking
- CLO3 : Conceptualise and map complex business or societal problems
- CLO4 : Test and build confidence in systems models

Detailed Assessment Description

This assignment will continue to build your understanding of managing growth in the presence of self-induced limits to business growth. You are to reconstruct a business growth model and then gain insight into the dynamic behaviour of a system comprising interrelated feedback loops by running different scenarios.

Assessment Length

Submit an 8-page (or less) PDF document on Moodle by the due date listed above.

Peer Evaluations

<u>Course Learning Outcomes</u>

- CLO1 : Recognise and apply the key elements of systems thinking
- CLO3 : Conceptualise and map complex business or societal problems
- CLO4 : Test and build confidence in systems models

<u>Detailed Assessment Description</u>

The final project in assessment #3 involves an active collaboration among a small team of students. The expectation in the MCom program is that students are proactively engaged and consistently collaborate and even help overcome any challenges their team might face when trying to accomplish a particular objective. In other words, self-awareness, proactivity and leadership when engaging in teamwork are expected from students. In order to reward those students who meet these expectations, in this course all teammates will have the opportunity to assess whether each of their team members has met these expectations.

During Week 10 of the course, you will receive a link to complete an online peer assessment survey for each member of your team. When completing the online peer assessment, please add at least a brief comment for each team member on all three questions to justify your rating. Your ratings and comments for each team member will be anonymous but will be shared with them (along with the ratings and comments from every other team member).

<u>Assessment Length</u>

1 page peer rating survey for each team member

General Assessment Information

- Assignments 1, 2 and 3 should be submitted in Moodle on the due dates listed above. Assignment 4 involves completing an online assessment survey for each member of your team; you will receive a link for the online system during Week 10 of the course.
- Feedback on student performance from formative and summative assessment tasks will be provided to students in a timely manner. Assessment tasks completed within the teaching period of a course, other than a final assessment, will be assessed and students provided with feedback, with or without a provisional result, within 14 working days of submission, under normal circumstances.
- Short extensions are not available for all assessments in this course. Requests for extensions for all assessments must be applied through UNSW's special consideration unit (https://www.student.unsw.edu.au/special-consideration).
- Late submission will incur a penalty of 5% per day or part thereof (including weekends) from the due date and time. An assessment will not be accepted after 5 days (120 hours) of the original deadline unless special consideration has been approved. An assignment is considered late if the requested format, such as hard copy or electronic copy, has not been

submitted on time or where the 'wrong' assignment has been submitted.

<u>Grading Basis</u>

Standard

<u>Requirements to pass course</u>

In order to pass this course, you must:

- achieve a composite mark of at least 50 out of 100;
- meet any additional requirements described in the Assessment Summary section.

You are expected to attempt all assessment requirements in the course.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Seminar	The Appeal and Power of Systems Thinking, Modelling and Simulation Read: Morecroft 2015, Chapter 1
Week 2 : 19 February - 25 February	Seminar	Feedback systems and Causal Loops Read: Morecroft 2015, Chapter 2
Week 3 : 26 February - 3 March	Seminar	Modelling Dynamic Systems: From Causal Loops to Simulation Read: Morecroft 2015, Chapter 3
Week 4 : 4 March - 10 March	Seminar	Growth Strategies for New Businesses Read: Morecroft 2015, Chapter 6 Assignment 1 due on Thursday March 10 by 1pm
Week 5 : 11 March - 17 March	Seminar	Managing Growth and Investment (Part 1) Read: Morecroft 2015, Chapter 7: pages 201-226 (to the end of section entitled 'Policy Structure and Formulations for Sales Growth')
Week 6 : 18 March - 24 March	Other	Flex Week
Week 7 : 25 March - 31 March	Seminar	Managing Growth and Investment (Part 2) Read: Morecroft 2015, Chapter 7: pages 226-268
Week 8 : 1 April - 7 April	Seminar	SD modelling case studies & modelling workshop Assignment 2 due on Thursday April 6 by 1pm
Week 9 : 8 April - 14 April	Seminar	Applications of Modelling Public Policy Issues Read: Morecroft 2015, Chapter 9
Week 10 : 15 April - 21 April	Seminar	Model Validity and Testing Read: Morecroft 2015, Chapter 10
Week 11 : 22 April - 28 April	Assessment	Assignment 3 due on Friday April 28 by 4pm Assignment 4 due on Sunday April 30 by 4pm

Attendance Requirements

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

Course Resources

Prescribed Resources

Required Textbook: Morecroft JDW 2015. Strategic Modelling and Business Dynamics: A Feedback Systems Approach, 2nd Edition, Chichester: Wiley.

You can download a free electronic copy of this book from the UNSW Library. The link to the eBook will be available in the Moodle course site.

You can also purchase this textbook for the course (either paperback or e-book format). A Learners website accompanies the book and provides a wealth of additional resources, including many learning support models (i.e. fully documented and operational existing simulation models) matching the content of the textbook chapters, some videos, and additional (optional) readings to supplement the textbook chapters.

Additional course resources will be available on Moodle from time-to-time.

Course Evaluation and Development

This course has developed over many years using student feedback on content, assessments and delivery. We seek feedback each term from students on ways to further enhance the student experience and learnings.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Hossein Hosseini				Times are flexible, but a prior appointment is essential – just email to arrange a mutually agreeable time.	No	Yes

Other Useful Information

Academic Information

COURSE POLICIES AND SUPPORT

The Business School expects that you are familiar with the contents of this course outline and the UNSW and Business School learning expectations, rules, policies and support services as listed below:

- Program Learning Outcomes
- Academic Integrity and Plagiarism
- Student Responsibilities and Conduct
- Special Consideration
- Protocol for Viewing Final Exam Scripts
- Student Learning Support Services

Further information is provided on the key policies and support page.

Students may not circulate or post online any course materials such as handouts, exams, syllabi or similar resources from their courses without the written permission of their instructor.

STUDENT LEARNING OUTCOMES

The Course Learning Outcomes (CLOs) – under the Outcomes tab – are what you should be able to demonstrate by the end of this course, if you participate fully in learning activities and successfully complete the assessment items.

CLOs also contribute to your achievement of the Program Learning Outcomes (PLOs), which are developed across the duration of a program. PLOs are, in turn, directly linked to UNSW graduate capabilities. More information on Coursework PLOs is available on the key policies and support page. For PG Research PLOs, including MPDBS, please refer to the UNSW HDR Learning Outcomes.

Academic Honesty and Plagiarism

As a student at UNSW you are expected to display academic integrity in your work and interactions. Where a student breaches the UNSW Student Code with respect to academic integrity, the University may take disciplinary action under the Student Misconduct Procedure. To assure academic integrity, you may be required to demonstrate reasoning, research and the process of constructing work submitted for assessment.

To assist you in understanding what academic integrity means, and how to ensure that you do comply with the UNSW Student Code, it is strongly recommended that you complete the Working with Academic Integrity module before submitting your first assessment task. It is a free, online self-paced Moodle module that should take about one hour to complete.

Submission of Assessment Tasks

SPECIAL CONSIDERATION

You can apply for special consideration when illness or other circumstances beyond your control interfere with your performance in a specific assessment task or tasks, including online exams. Students studying remotely who have exams scheduled between 10pm and 7am local time, are also able to apply for special consideration to sit a supplementary exam at a time outside of these hours.

Special consideration is primarily intended to provide you with an extra opportunity to demonstrate the level of performance of which you are capable. To apply, and for further information, see Special Consideration on the UNSW Current Students page.

Special consideration applications will be assessed centrally by the Case Review Team, who will update the online application with the outcome and add any relevant comments. The change to the status of the application immediately sends an email to the student and to the assessor with the outcome of the application.

Please note the following:

1. Applications can only be made through Online Services in myUNSW (see the UNSW Current Students page). Applications will not be accepted by teaching staff. The lecturer-in-charge/ course coordinator will be automatically notified when your application is processed.
2. Applying for special consideration does not automatically mean that you will be granted a supplementary exam or other concession.
3. If you experience illness or misadventure in the lead up to an exam or assessment, you must submit an application for special consideration, either prior to the examination taking place, or prior to the assessment submission deadline, except where illness or misadventure prevent you from doing so.
4. If your circumstances stop you from applying before your exam or assessment due date, you must apply within 3 working days of the assessment or the period covered by your supporting documentation.
5. Under the UNSW Fit To Sit/Submit rule, if you sit the exam/submit an assignment, you are declaring yourself well enough to do so and are cannot subsequently apply for special consideration.
6. If you become unwell on the day of – or during – an exam, you must stop working on your exam, advise your course coordinator or tutor and provide a medical certificate dated within 24 hours of the exam, with your special consideration application. For online exams, you must contact your course coordinator or tutor immediately via email, Moodle or chat and advise them you are unwell and submit screenshots of your conversation along with your medical certificate and application.
7. Special consideration requests do not allow the awarding of additional marks to students.

Further information on Business School policy and procedure can be found under "Special Consideration" on the [key policies and support](#) page.

LATE SUBMISSION PENALTIES

For assessments other than examinations, late submission will incur a penalty of 5% per day or part thereof (including weekends) from the due date and time. An assessment will not be accepted after 5 days (120 hours) of the original deadline unless special consideration has been approved. An assignment is considered late if the requested format, such as hard copy or electronic copy, has not been submitted on time or where the 'wrong' assignment has been submitted.

For assessments which account for 10% or less of the overall course grade, and where answers are immediately discussed or debriefed, the LIC may stipulate a different penalty. Details of such late penalties will be available on the course Moodle page.

FEEDBACK ON YOUR ASSESSMENT TASK PERFORMANCE

Feedback on student performance from formative and summative assessment tasks will be provided to students in a timely manner. Assessment tasks completed within the teaching period of a course, other than a final assessment, will be assessed and students provided with feedback, with or without a provisional result, within 10 working days of submission, under normal circumstances. Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Faculty-specific Information

PROTOCOL FOR VIEWING FINAL EXAM SCRIPTS

UNSW students have the right to view their final exam scripts, subject to a small number of very specific exemptions. The UNSW Business School has set a [protocol](#) under which students may view their final exam script. Individual schools within the Faculty may also set up additional local processes for viewing final exam scripts, so it is important that you check with your School.

If you are completing courses from the following schools, please note the additional school-specific information:

- Students in the **School of Accounting, Auditing & Taxation** who wish to view their final examination script should also refer to [this page](#).

- Students in the **School of Banking & Finance** should also refer to this page.
- Students in the **School of Information Systems & Technology Management** should also refer to this page.

COURSE EVALUATION AND DEVELOPMENT

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the myExperience survey, which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

QUALITY ASSURANCE

The Business School is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential.

TEACHING TIMES AND LOCATIONS

Please note that teaching times and locations are subject to change. Students are strongly advised to refer to the Class Timetable website for the most up-to-date teaching times and locations.