

Faculty of Commerce and Administration

VICTORIA UNIVERSITY OF WELLINGTON

Te Whare Wānanga o te Ūpoko o te Ika a Māui

International MBA Programme



**VICTORIA
MANAGEMENT SCHOOL**

Te Kura Whakahaere

2008

IMBA 549

Systems Thinking and Creative Problem Solving

COURSE OUTLINE

- Start Date:** 29th March 2008
- Format:** 12 - two-hour sessions over two weekends.
- Lecture Times:** 29th March: 2:00 – 6:00 pm & 7:00 – 9:00 pm
30th March: 11:00am – 2:00 pm & 3:00 – 6:00 pm
26th April: 2:00 – 6:00 pm & 7:00 – 9:00 pm
27th April: 11:00am – 2:00 pm & 3:00 – 6:00 pm
- Location:** Room 803, MMW Engineering Building, CUHK
- Teaching Staff:** Professor John Brocklesby, BA (Hons), MSc(Econ), Ph.D.
- Office: RH 906, PO Box 600, Wellington, NZ
Email: john.brocklesby@vuw.ac.nz
- Telephone: 644-463-5136 Fax: 644-463-5084
- Textbook:*** M.C. Jackson “Systems Thinking – Creative Holism for Managers” John Wiley and Sons, 2003.

Course Objectives

One of the most enduring features of contemporary management is that organisational problems are rarely straightforward enough to be resolved through the application of any single theory or method, through the use of some 'magic wand', through expert knowledge of any single academic discipline, or through 'common-sense' thinking. Problems frequently lack definition. They are comprised of complex interacting elements. They are often viewed differently by various stakeholders.

This course is prefaced on the assumption that complexity and ambiguity are inherent features of managing, which managers have to accept and confront, not hide from. It submits that creative insight into organisational problems may be gained by using a number of different 'lenses', and that a range of systems-based methodologies/tools/techniques can be used individually and/or in creative combinations to help deal with these.

The course does the following:

- (a) Examines the nature of creative thinking about organizational problems.
- (b) Traces the emergence of systemic thinking in disciplines such as biology, control engineering, and the natural sciences.
- (c) Details and provides a critique, based upon social theory, of a wide range of systems approaches, methodologies, models and methods.
- (d) Introduces a range of systems methods and tools across three paradigms.
- (e) Introduces the concept of 'multimethodology' which provides a framework for the creative combination of different approaches.

Assessment

Individual Assignment	20 %	due 12 th April returned 26 th April
Group Project	30%	due 27 th April
Final Examination	50 %	25 th May

Individual Project/Report (20%) – The individual hand-in assignment will be discussed during the initial sessions, at which time detailed terms of reference will be distributed. Written assignment reports will be due at class on the due date – 12 April 2008.

Group Project (30%) – The group project will be discussed during the first visit, at which time detailed terms of reference will be distributed. Written group reports will be due at class on Sunday, 27 April 2008.

Final Examination (50%) – This course will have a final, three-hour, open-book examination.

Course Terms of Reference

Late Assignments

Given the modular nature of the course delivery and relatively short time for marking and return, it is imperative that assignments are handed in on time. Late assignments will incur a 50% penalty on the assigned mark. Assignments more than two weeks late will not be accepted. In addition, late assignments will not be available by the agreed-to return date.

Obtaining Terms

To obtain terms to sit the final examination in this course, students are required to participate in both weekend modules and submit both written assignment reports.

Passing the Course

In order to pass this course, students are required to obtain at least forty percent of the final examination marks available, and obtain at least fifty percent of the overall course marks available.

Victoria IMBA Grading Standards

Excellent Category

A- (75 – 79%) to A (80 – 85%) to A+ (above 85%): The learning is demonstrated to a very high level of proficiency, i.e. it is at a standard that makes it exceptional at Master's level.

Very Good Category

B+ (70 – 74%): The learning is demonstrated at a high standard. Students have reached a level that clearly exceeds “competency”.

Good Category

B (65 – 69%): The learning is clearly demonstrated without being exceptional in any way. Students can be thought of as fully competent.

Satisfactory Category

B- (60 – 64%): The learning is demonstrated without being exceptional in any way. Students can be thought of as competent.

Marginal Category

C (50 – 54%) to C+ (55 – 59%): The learning is demonstrated to a minimally acceptable level. There may be flaws but these are not serious enough to “fail” the student.

Unsatisfactory / Failure Category

E (0 – 39%) to D (40 – 49%): The learning is absent or performed to a very low level, or the performance is seriously flawed.

Individual Work

While the Victoria IMBA programme has a tradition of study group collaboration, there are important elements in the assessment process that are strictly individual. Collaboration on individual assignments is not allowed. Please do not work together to formulate a response and do not loan out your completed assignments.

Plagiarism

The Victoria IMBA programme views plagiarism as a serious offence. Students who plagiarise put themselves at risk of expulsion from the programme. Plagiarism is defined as representing someone else's work as your own. It includes, cutting and pasting material from websites, typing in sentences and paragraphs from books and journals, copying from other assignments and materials, and taking quotes that others have used without recognising the originator. It also includes writing verbatim from a textbook in an open-book examination situation without recognising the source of your material. If you use other peoples' materials, then you must give them credit and recognise the source. This includes making the material explicit by putting it in quotations and placing a footnote at the bottom of the page or back of your document to indicate complete details of the author and source.



GENERAL UNIVERSITY POLICIES AND STATUTES

Students should familiarise themselves with the University's policies and statutes, particularly those regarding assessment and course of study requirements, and formal academic grievance procedures contained in the statutes in the VUW website.

The University Statute on Student Conduct and Policy on Staff Conduct

The Statute on Student Conduct together with the Policy on Staff Conduct ensure that members of the University community are able to work, learn, study and participate in the academic and social aspects of the University's life in an atmosphere of safety and respect. The Statute on Student Conduct contains information on what conduct is prohibited and what steps can be taken if there is a complaint. For queries about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor. This Statute is available in the APIB Administration Office or on the website at:

www.vuw.ac.nz/policy/StudentConduct

The policy on Staff Conduct can be found on the VUW website at:

www.vuw.ac.nz/policy/StaffConduct

Academic Grievances

If you have any academic problems with your paper you should talk to the tutor or lecturer concerned or, if you are not satisfied with the result of that meeting, see the IMBA Director. Class representatives are available to assist you with this process. If, after trying the above channels, you are still unsatisfied, formal grievance procedures can be invoked. These are set out in the Academic Grievances Statute which is published on the VUW website:

www.vuw.ac.nz/policy/AcademicGrievances

Plagiarism

Victoria University defines plagiarism as the copying of ideas, organisation, wording or anything else from another source without appropriate reference or acknowledgement so that it appears to be one's own work. This includes published and unpublished work, the Internet and the work of other students and staff. Plagiarism is an example of misconduct in the Statute of Student Conduct. Students who have plagiarised are subject to a range of penalties under the Statute. See the website: www.vuw.ac.nz/policy/StudentConduct

Reasonable Accommodation Policy

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities an equal opportunity with all other students to demonstrate their abilities. If you have a disability, impairment or chronic medical condition (temporary, permanent or recurring) that may impact on your ability to participate, learn and/or achieve in lectures and tutorials or in meeting the course requirements, then please contact the Course Coordinator as early in the course as possible.

disability@vuw.ac.nz

The name of the Disability Liaison Person can be obtained from the IMBA Programme Director.

Appeals / Concerns / Statute on Conduct

If you have any concerns with your courses, you should first talk to the lecturer concerned and, if you are not satisfied with the result of that meeting, contact the Director of the IMBA, Dr Paul McDonald, email: paul.mcdonald@vuw.ac.nz). The University has developed independent procedures for dealing with academic grievances and complaints. These procedures are set out in the Statute on Academic Grievances in the University Calendar.

Session Schedule - IMBA 549 - 2008

Session	Date	Topic	
1	29 March	- Creative Thinking in an Organisational Context	2
2	29 March	- The Nature and Origins of Systems Thinking	
3	29 March	- Modelling Organisations	
4	30 March	- Viable Systems Modelling I	
5	30 March	- Viable Systems Modelling II	
6	30 March	- Viable Systems Modelling III	
7	26 April	- Soft/Interpretive Systems Thinking	
8	26 April	- Soft Systems Methodology I	
9	26 April	- Soft Systems Methodology II	
10	27 April	- Strategic Options Development Analysis / Cognitive Mapping I	
11	27 April	- Strategic Options Development Analysis / Cognitive Mapping II	
12	27 April	- Critical Systems Thinking Multimethodology	

Session 1 – Creative Thinking in an Organisational Context

This session focuses on the nature and process of creative thinking; the role of metaphors in constructing and analysing organizational problems; it examines the link between metaphorical and practical problem solving tools and methods. The session also looks at the relationship between creative thinking and the process of intervention.

Reading for Session 1:

M.Jackson (2003) Ch's 1, 2 and 3 Systems Thinking: Creative Holism for Managers, Wiley, London.

Session 2 – The Nature and Origins of Systems Thinking

This session sets the broad context for the rest of the course. It examines the nature of systems thinking and trace its emergence in disciplines such as biology, control engineering, and the natural sciences. A theoretical framework for positioning a wide range of hard, soft and critical systems approaches, methods, and models is provided.

Reading for Session 2:

R. L. Ackoff (1994) Systems Thinking and Thinking Systems. *System Dynamics Review* 10, 175 - 188.

R. L. Flood and M. C. Jackson (1991) A System of Systems Methodology, in Creative Problem Solving: Total Systems Intervention, London, John Wiley.

Sessions 3 – 6 : Modelling Organisations and Viable Systems

These sessions focus on different ways of modelling organisations. Specifically we examine the Theory of Viable Systems and the Viable systems Model (VSM) as a tool for organizational analysis and design. Case studies are used to develop an understanding of technical aspects of the VSM and to illustrate how the model might best be used in practice. Other sessions examines some of the strengths and limitations of the VSM.

Reading for Sessions 3-6:

Brocklesby, J., J. Davies, et al. (1995). "Demystifying the Viable Systems Model as a Tool in Organisational Analysis." Asia Pacific Journal of Operational Research **12**(1): 65-86.

Brocklesby, J. and S. Cummings (1996). "Designing a Viable Organization Structure." International Journal of Strategic Management: Long Range Planning **29**(1): 49-57.

Brocklesby, J. and S. Cummings (2003). Strategy As Systems, in Images of Strategy. S. Cummings and D. Wilson. London, Blackwell.

Sessions 7 - 9: Soft/Interpretive Systems Thinking

Sessions 7 to 9 focus on what has become known as the ‘first epistemological break’ in systems thinking. This has involved a shift from using systems ideas as explanatory devices to using them to facilitate learning. These sessions focus on the distinction between hard and soft systems and introduces a number of exemplar soft methods and tools. We examine a parallel shift in relation to the role of the agent: from ‘expert’ to ‘facilitator’.

These sessions develop an understanding of various SSM tools: ‘rich pictures’, ‘root definitions’, and conceptual models. Thereafter these tools will be applied through one or more case studies, and through application to areas of common interest. Time permitting, derivative applications of SSM in areas such as human resource management and information systems will be explored.

Reading for Sessions 7-9:

M.C.Jackson (2003). *Soft Systems Methodology Systems Thinking: Creative Holism for Managers* London, John Wiley.

Checkland, P. (2003). *Soft Systems Methodology. Rational Analysis for a Problematic World Revisited*. J. Rosenhead and J. Mingers. London, John Wiley

Checkland, P. (2003). *Soft Systems Methodology in Action: Participative Creation of an Information Strategy for an Acute Hospital. Rational Analysis for a Problematic World Revisited*. J. Rosenhead and J. Mingers, London, John Wiley.

Sessions 10 – 11: Strategic Options Development and Analysis/Cognitive Mapping

These two sessions focus upon Strategic Options Development and Analysis which is an approach that seeks to identify how stakeholders make sense of the strategic environment in which companies operate. ‘Cognitive mapping’ is central to the SODA process and a good deal of the two sessions will be devoted towards understanding the structure of cognitive maps, how they are constructed, and how they are analysed. Again case studies and exercises will be used to illustrate how these processes might be applied in various contexts.

Reading for Sessions 10 – 11:

Eden, C. and Ackermann, F. (2001). SODA – The Principles, Rational Analysis for a Problematic World Revisted. J. Rosenhead and J. Mingers, London, John Wiley & Sons.

Eden, C. and Ackermann, F. (2001). SODA – Journey Making and M Eden, C. and Ackermann, F. (2001). SODA – The Principles, Rational Analysis for a Problematic World Revisted. J. Rosenhead and J. Mingers, London, John Wiley & Sons.
apping in Practice, Rational Analysis for a Problematic World Revisted. J. Rosenhead and J. Mingers, London, John Wiley & Sons.

J. Bryson, F.Ackermann, C.Eden and C.Finn (2004) What Do I Think? A guide to Cognitive Mapping. Visible Thinking: Unlocking Causal Mapping For Practical Business Results. John Wiley, London.

Session 12 – Critical Systems Thinking and ‘Multimethodology’

Session 12 examines two relatively recent developments in systems thinking: ‘critical systems’ and ‘multimethodology’. Both approaches depart from the orthodoxy in that in addition to providing a distinctive philosophical basis for organisational intervention, they also advocate and provide a framework for the creative combination of two or more individual sets of tools and techniques. ‘Multimethodology’ in particular, shows how individual methodologies can be decomposed and recombined in creative ways to meet the exigencies of particular problem situations.

Reading for Session 12:

M.C.Jackson (2003). Critical Systems Practice Systems Thinking: Creative Holism for Managers London, John Wiley.

Mingers, J. and J. Brocklesby (1997). "Multimethodology: Towards A Framework For Mixing Methodologies." Omega - International Journal of Management Science **25**(5): 489-509.

Final Examination:

25th May 2008

3 hours – Open Book