



BUSINESS SCHOOL

Course Outline 2018

INFOSYS 737: ADAPTIVE ENTERPRISE SYSTEMS (15 POINTS)

Semester 2 (1185)

Course prescription

Enterprises competing in contemporary dynamic markets must respond to the ever-increasing rates of change in a sustainable manner. Focuses on integrated cross-functional enterprise systems, how they can be leveraged and enhanced to support adaptive and sustainable enterprises. A range of areas including Context-aware strategy/change/process/risk/performance management, Enterprise Resource Planning, Cloud Computing, Analytics, and Mobility will be discussed holistically.

Course advice

Prerequisite: Any degree in Commerce, Science, or Engineering.

Goals of the course

The goals of the course are to introduce students to:

- a) What it means to be an adaptive and sustainable enterprise
- b) How to architect an adaptive sustainable enterprise
- c) Procedural and technological responses towards adaptation

Learning outcomes (LO)

#	Learning outcome	Graduate profile capability*
LO1	Understand the need for adaptation and sustainability	1. Disciplinary knowledge and practice 4c. Engagement 4a. Communication (Oral)
LO2	Understand fundamental principles of adaptation and sustainability from a variety of disciplines.	1. Disciplinary knowledge and practice 4c. Engagement 4a. Communication (Oral)
LO3	Understand how enterprises can adapt and be sustainable ;	2. Critical thinking 4c. Engagement 3. Solution seeking
LO4	Understand various perspectives on architecting an adaptive sustainable enterprise ;	1. Disciplinary knowledge and practice 4c. Engagement 4a. Communication (Oral)
LO5	Understand, discuss, and reflect on procedural and technological mechanisms/responses to adapt and sustain an enterprise; deliberate as well as emergent; rational and anarchical; and balancing on the edge of chaos.	3. Solution seeking 4c. Engagement 4a. Communication (Oral)
LO6	Understand and be able to conduct a business analysis of an enterprise's vision, industry, strategy, value chain, processes, services, systems and applications.	2. Critical thinking 3. Solution seeking 5a. Independence
LO7	Understand and recommend the appropriate systems landscape (to support an enterprise's processes) i.e. transaction processing, decision support, collaboration, enterprise resource planning (ERP), customer relationship management (CRM), and supply chain management (SCM) systems.	2. Critical thinking 3. Solution seeking 4b. Communication (Written)
LO8	Understand and recommend the appropriate technological architecture and infrastructure (to support an enterprise's processes and systems) i.e. databases, data mining, big data, visualisations, software, hardware, networks, programs, cloud, social, mobile, and IoT.	2. Critical thinking 3. Solution seeking 4b. Communication (Written)
LO9	Understand and recommend the various mechanisms that could be leveraged to bring about the sustainable transformation of the enterprise, i.e. systems development and project management methodologies, the process of adapting to sustaining and disruptive changes.	2. Critical thinking 6a. Social responsibilities 6b. Environmental responsibilities

* See the graduate profile this course belongs to at the end of this course outline.

Content outline

Week / Module	Lectures	Labs	Assessment due this period
1 17 July	Adaptive Enterprises		
2 24 Jul	Architecting the Adaptive Sustainable Enterprise	<i>Vision2Action</i>	<i>Proposal due by 23rd Jul 5 PM via Canvas</i>
3 31 Jul	Procedural Responses for Adaptation	<i>SAP Solution Map Composer</i>	
4 7 Aug	Technological Responses for Adaptation	<i>ARIS</i>	
5 14 Aug	Dancing on the Edge of Chaos: Vision, Industry, and Strategy	<i>SAP ERP</i>	
6 21 Aug	Adaptive Sustainable Enterprises	<i>SAP Solution Manager</i>	<i>Iteration 2 – Analysis due by 22nd Aug 5 PM via Canvas</i>
7 11 Sep	Orchestrating the Adaptive Enterprise: Value Chains, Processes, and Services	<i>AIMMS</i>	
8 18 Sep	Evolving Frameworks and Adaptive Architectures, Systems and Applications: Cloud-based, Social, Mobile, IoT Enterprises	<i>iThink</i>	
9 25 Sep	Interweaving the Deliberate and Emergent: Models for Adaptive Sustainable Enterprises	<i>SPSS Modeller</i>	<i>Iteration 3 – Design due by 26th Sep 5 PM via Canvas</i>
10 2 Oct	From the Rational to the Anarchical: Competing on Big Data and Business Analytics	<i>Assignment Help</i>	
11 9 Oct	Roadmaps for Transformation: Change Management, Agile, SCRUM, DevOps, and XP	<i>Assignment Help</i>	
12 16 Oct	Conclusion	<i>Assignment Help</i>	<i>Iteration 4 – Implementation due by 19th Oct 5 PM via Canvas</i>

Learning and teaching

The class will meet for three hours each week. Class time will be used for a combination of lectures and discussions. In addition to attending classes, students should be prepared to spend at least another six hours per week on activities related to this course. These activities include carrying out the required readings, labs and research relevant to this course, and preparing for assignments and the final exam.

150 hours learning over a single semester including:

- 36 contact hours through lectures
- 16 contact hours through laboratories/tutorials

- 24 hours preparatory reading
- 74 hours of self-study

Teaching staff

Course Director and Lecturer

David Sundaram Office: OGGB Room 476
 Email: d.sundaram@auckland.ac.nz

Office Hour: Tuesdays 1-2 PM
 Phone: 09 – 923 5078

Coordinators and Tutors

Shahzad Khan (Course Coordinator and Tutor) Office Hour: 4-5 PM Thursday Room: 4102
 Email: shahzad.khan@auckland.ac.nz

Aldrich Rasco (Tutor)
 Email: aras613@aucklanduni.ac.nz

Office Hour: 4-5 PM Thursday Room: 4102

Deepikah Amirthalingam (Tutor)
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Shohil Kishore (Technical Coordinator)
 Email: s.kishore@auckland.ac.nz

Learning resources

There is no textbook for this course. In lieu of a textbook, most of the required readings are included in the INFOSYS 737 Course Book (soft copy). Other readings and supplemental material will be distributed in class as needed. Students are also advised to take advantage of the extensive software resources made available for this course.

Assessment information

Assessment task	Weight %	Steps ¹	Group and/or individual	Submission
Iteration 1 – Proposal	0	1-2	Individual	23 rd Jul 5 PM
Iteration 2 – Analysis	11	1-6, 8, 12, 13	Individual	22 nd Aug 5 PM
Iteration 3 – Design	14	7, 9-11, 13-15, 17	Individual	26 th Sep 5 PM
Iteration 4 – Implementation	25	7, 9-11, 13-22	Individual	19 th Oct 5 PM
Resubmission of Iterations 2 and 3	Plussage		Individual	19 th Oct 5 PM
Exam	50		Individual	

Pass requirements

Plussage applies between *Iteration 2 - Analysis*, *Iteration 3 - Design* and *Iteration 4 - Implementation*. That is if the mark for the Implementation is higher than the Analysis or Design then that mark will be adjusted to 50%. Bonus of 10% of Assignment mark for the submission of a 10-30 page *research paper* (single space, 11 font size, with normal

¹ Refer to the 22 steps of the assignment specification at the end of this document

margins). That is you can get a maximum of 5 marks extra for submitting the *report* as a *paper*. Note that you DO NOT need to submit the *report* IF you are writing the *paper*.

Description of assessment tasks

Assessment task	Learning outcome to be assessed
Iteration 1 – Proposal	LO1, LO2, LO3, LO4
Iteration 2 – Analysis	LO5, LO6
Iteration 3 – Design	LO7, LO8, LO9
Iteration 4 – Implementation	LO1 to LO9
Resubmission of Iterations 2 and 3	LO1 to LO9
Exam	LO1 to LO9

Inclusive learning

Students are urged to discuss privately any impairment-related requirements face-to-face and/or in written form with the course director, lecturer, coordinator and/or tutor.

Academic integrity

The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting his or her learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the worldwide web. A student's assessed work may be reviewed against electronic source material using computerised detection to provide an electronic version of their work for computerised review.

Student feedback

Student feedback is important to us and has been used to improve the course from semester to semester. This semester you may be asked to complete evaluations on the teaching of the course, both in lectures and in tutorials. Please note that you do not have to wait until these evaluations are conducted in order to provide feedback. If there is something that you think we could improve then please let us know (via email or in person) as soon as possible.

In the event of an unexpected disruption

We undertake to maintain the continuity and standard of teaching and learning in all your courses throughout the year. If there are unexpected disruptions, the University has contingency plans to ensure that access to your course continues and your assessment is fair, and not compromised. Some adjustments may need to be made in emergencies, In the event of a disruption, the University and your course coordinators will make every effort to provide you with up to date information via Canvas and the University website.

Graduate profile for Master of Commerce

The following six themes represent the capabilities that the Business School seeks to foster in all of its graduates. The development of these capabilities does not come all at once, but rather is expected to build from year to year. Each course is not expected to contribute to all capabilities, but each course will have its own goals and learning outcomes that relate to the overall development of this profile.

Graduate Profile	
1. Disciplinary knowledge and practice	Graduates will be able to apply highly specialised knowledge within the discipline to demonstrate an advanced awareness and understanding in a global context.
2. Critical thinking	Graduates will be able to analyse and evaluate the relevant literature, and design and develop scholarly arguments that demonstrate advanced and diverse thinking.
3. Solution seeking	Graduates will be able to creatively research and analyse complex issues, and develop innovative solutions.
4. Communication and engagement	Graduates will be able to engage, communicate, and collaborate with diverse groups using multiple formats and effectively address a range of professional and academic audiences.
5. Independence and integrity	Graduates will be able to demonstrate advanced independent thought, self-reflection, ethics, and integrity.
6. Social and environmental responsibility	Graduates will consider, in relation to their discipline, the potential significance of the principles underpinning both the Treaty of Waitangi and sustainability.

INFOSYS 737 Adaptive Enterprise Systems - Readings and Videos

1 17 July	Adaptive Enterprises
	Enabling the Adaptive Enterprise https://www.youtube.com/watch?v=T2sG7SJ0ppA
	Designing for Happiness https://www.youtube.com/watch?v=n2rpljWGeUY
	Steve Jobs Rules https://www.youtube.com/watch?v=eHzAtxW3TzY
	Haeckel, S.H., 1999, Adaptive enterprise: Creating and leading sense-and-respond organizations, Harvard Business Review Press, pp. 1-22. https://books.google.co.nz/books?id=prkFugJBAn4C&pg=PA1&source=gbs_toc_r&cad=3#v=onepage&q&f=false
2 24 July	Architecting the Adaptive Enterprise
	Strategy to Action https://www.youtube.com/watch?v=phaRUCx8IHA
	Holistic BPM https://drive.google.com/open?id=0B_c_OiVvkKqYLd0VJTUhiMGtBb2s
	Scheer, A.W., 2007. Jazz-Improvisation and Management. ARIS Expert Paper, pp. 1-11. http://whitepaper.talentum.com/whitepaper/view.do?id=21050
	Bennet, D., & Bennet, A., 2004, The Intelligent Complex Adaptive System Model for Organizations. pp. 1-17. https://www.researchgate.net/publication/242729307_ICAS_The_Intelligent_Complex_Adaptive_System
	Advanced Reading for the whole course: Bennet, A., & Bennet, D., 2011, Organizational Survival in the New World: The Intelligent Complex Adaptive System, Elsevier.
3 31 July	Procedural Responses for Adaptation
	What is BPM https://www.youtube.com/watch?v=XtvIU0ZCwjE
	Systems Thinking https://www.youtube.com/watch?v=17BP9n6g1F0
	Systems Thinking for a Better World https://www.youtube.com/watch?v=0QtQqZ6Q5-o
	Learning in Organisations https://www.youtube.com/watch?v=IUP4WcfNyAA
	Rosemann, M., Business Process Lifecycle Management, Queensland University of Technology, March 2001, pp. 1-29. http://www.scribd.com/doc/77708142/White-Paper-on-Business-Process-Lifecycle#scribd
4 7 Aug	Technological Responses for Adaptation
	Prof. Hasso Plattner of SAP http://events.sap.com/sapphireNOW/en/session/9602
	SOA https://www.youtube.com/watch?v=IIWVla6QhKM
	Kumaran, S., Bishop, P., Chao, T., Dhoolia, P., Jain, P., Jaluka, R., Ludwig, H., Moyer, A., Nigam, A.: Using a model-driven transformational approach and service-oriented architecture for service delivery management. IBM Systems Journal 46 (2007) 513. http://dl.acm.org/citation.cfm?id=1331924

5 14 Aug	Dancing on the Edge of Chaos: Vision, Industry, and Strategy
	Vision Statements https://www.youtube.com/watch?v=ioY-YSOKBtY
	Porter's Strategic Forces https://www.youtube.com/watch?v=mYF2_FBCvXw
	Generic Strategies https://www.youtube.com/watch?v=V14kuqYEsxE
	Brown, S.L., & Eisenhardt, K.M., 1998, Competing on the Edge: Strategy as Structured Chaos, Harvard Business Review Press, pp. 25-56. https://books.google.co.nz/books?id=Q86Vr44OkwgC&pg=PA25&source=gbs_toc_r&cad=3#v=onepage&q&f=false
6 21 Aug	Adaptive Sustainable Enterprises
	Truly Sustainable https://www.youtube.com/watch?v=SplxZiBpGU0
	Corporate Social Responsibility https://www.youtube.com/watch?v=E0NkGtNU_9w
	Sustainable Development Goals In Action https://sdgsinaction.com/
	Ahmed, M. D., & Sundaram, D. (2012). Sustainability modelling and reporting: From roadmap to implementation. Decision Support Systems, 53 (3), 611-624. doi:10.1016/j.dss.2012.02.004 http://www.sciencedirect.com/science/article/pii/S0167923612000620
7 11 Sep	Orchestrating the Adaptive Enterprise: Value Chains, Processes, and Services
	Value Chain Analysis https://www.youtube.com/watch?v=7wL6x1BSlw8
	Process Excellence Revolution https://www.youtube.com/watch?v=8ckn9KjkgK0
	Service Oriented Architecture https://www.youtube.com/watch?v=A3_QIYJRVvk
	Emig, C., Langer, K., Krutz, K., Link, S., Momm, C., and Abeck, S., 2006. The SOA's Layers. <i>Cooperation & Management</i> . Universität Karlsruhe, Karlsruhe. http://cm.tm.kit.edu/CM-Web/05.Publikationen/2006/[EL+06]_The_SOAs_Layers.pdf
8 18 Sep	Evolving Frameworks and Adaptive Architectures, Systems and Applications: Cloud-based, Social, Mobile, IoT Enterprises
	Why Enterprise Architecture? https://www.youtube.com/watch?v=qDI2oF1bASK
	SAP IoT https://www.youtube.com/watch?v=vXQV1EvmG0Q
	Enterprise Architecture https://www.youtube.com/watch?v=rBb7xvOVfFg
	TOGAF https://www.youtube.com/watch?v=UnhC9xk9wiE
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	PwC, 2015, A marketplace without boundaries? Responding to disruption, pp. 1-42 http://www.pwc.com/gx/en/ceo-survey/2015/assets/pwc-18th-annual-global-ceo-survey-jan-2015.pdf
	The EA Pad, 2015, The EA3 Cube Approach. https://eapad.dk/ea3-cube/overview/

9 25 Sep	Interweaving the Deliberate and Emergent: Models for Adaptive Enterprises
	Mintzberg on Strategy vs Operations https://www.youtube.com/watch?v=4srFC0de4ww
	Crafting Strategy https://www.youtube.com/watch?v=u-dDIRdLhWI
	Peko, G., Dong, C.-S., Sundaram, D., 2014, Adaptive Sustainable Enterprises, Mobile Networks and Applications, 19, (5), p608-617, 10.1007/s11036-014-0525-8. http://link.springer.com/article/10.1007%2Fs11036-014-0525-8
10 2 Oct	From the Rational to the Anarchical: Competing on Big Data and Business Analytics
	The Midas Formula https://vimeo.com/28554862
	Big Data Analytics – 11 cases https://www.youtube.com/watch?v=t4wtzluoY0w
	Challenges of Data Analytics https://www.youtube.com/watch?v=Sc5FFY-IVDQ
	Langley, A, H. Mintzberg, P. Pitcher and E. Posada, Opening up Decision Making: the View from the Black Stool, Organization Science, Vol 6, No 3, May-June 1995, pp. 260-279. https://www.nmbu.no/download/file/fid/15127
	EY, 2014, Big Data: Changing the way businesses compete and operate, pp. 1-32. http://www.ey.com/Publication/vwLUAssets/EY - _Big_data:_changing_the_way_businesses_operate/\$FILE/EY-Insights-on-GRC-Big- data.pdf
11 9 Oct	Roadmaps for Transformation: Change Management, Agile, SCRUM, DevOps, and XP
	Change Management https://www.youtube.com/watch?v=3Jk6clmMycl
	Agile Programming for your Family https://www.youtube.com/watch?v=J6oMG7u9HGE
	Agile Product Development https://www.youtube.com/watch?v=OJfIDE6OaSc
	DevOps https://www.youtube.com/watch?v=I94-tJlovg
	Markus, M.L. & C. Tanis, “Chapter 10: The Enterprise Systems Experience - From Adoption to Success”, In R.W. Zmud (Ed.) <i>Framing the Domains of IT Management: Projecting the Future Through the Past</i> , Cincinnati, OH: Pinnaflex Education Resources, Inc, 2000, pp. 173-207. http://pro.unibz.it/staff/ascime/documents/ERP%20paper.pdf
	Scott, J. & Vessey, I. Enterprise Systems Implementation Risks. <i>Communications of the ACM</i> , April 2002, pp. 74 - 81. http://dl.acm.org/citation.cfm?id=505249
Week 12 16 Oct	Presentations and Conclusion

INFOSYS 737 Assignment Specification – Analysis Design and Implementation

Step	Requirement	A	D	I	Total
1	Identify a problem that is facing the world or a significant number of people	1			1
2	Identify or create a product or service that will help solve the problem	1			1
3	Come up with a Vision Statement for your company	0.5			0.5
4	Identify your customers, suppliers, partners	0.5			0.5
4	Conduct an industry analysis	1			1
5	Identify and justify the strategy you will adopt	1			1
6	Identify and justify your value chain	1			1
7	Create a Solution Map using Solution Map Composer for your company		0.5	0.5	1
8	Identify and justify 3 most important business processes	1			1
9	Model your value chain using ARIS		0.5	0.5	1
10	Model 3 key business processes using ARIS		1	1	2
11	Identify SAP modules and/or functionality that will support these 3 processes		1	1	2
12	Identify 3 events of varying degrees of disruptive intensity - low, medium, and high	2			2
13	Build a model of the high disruption event to enable the decision maker/CEO to understand/manage the situation	2	2	2	6
14	Describe how you would sense, interpret, and respond to each of these 3 events - procedurally		2.5	2.5	5
15	Describe how you would sense, interpret, and respond to each of these 3 events - technologically		2.5	2.5	5
16	For each of these 3 events identify the potential change that could occur in Strategy, Organisation, Process, and/or Information Systems (AS-IS and TO-BE)			1	1
17	Build a prototype using iThink or SPSS Modeller or AIMMS to support decision making when the high disruption event occurs		4	4	8
18	Describe a change management process to respond to the high disruption event in a sustainable manner			2	2
19	Identify functionality in SAP Solution Manager that will help you to support the change management process			2	2
20	Recommend appropriate data, information, and knowledge infrastructure to support the enterprise's processes			2	2
21	Recommend the appropriate systems and applications landscape to support the enterprise's processes			2	2
22	Recommend appropriate traditional and exponential technologies to support the enterprise's processes			2	2
		11	14	25	50

Plussage applies between Analysis, Design and Implementation. That is if the mark for the *Implementation* is higher than the Analysis or Design then that mark will be adjusted to 50%. Bonus of 10% of Assignment mark for the submission of a 10-30 page *research paper* (single space, 11 font size, with normal margins). That is you can get a maximum of 5 marks extra for submitting the *report* as a *paper*. Note that you DO NOT need to submit the *report* IF you are writing the *paper*.