THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

BUSINESS SCHOOL

Course Outline 2017
INFOSYS 737: ADAPTIVE ENTERPRISE SYSTEMS (15 POINTS)

Semester 2 (1175)

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.

Programme and 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
By the end of this course it is expected that a student will be able to:

1. Understand the **need** for **adaptation** and **sustainability**;
2. Understand fundamental **principles** of adaptation and sustainability from a variety of disciplines;
3. Understand **how enterprises can adapt** and be **sustainable**;
4. Understand various perspectives on **architecting an adaptive sustainable enterprise**;
5. 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.
6. Understand and be able to conduct a **business analysis** of an enterprise's vision, industry, strategy, value chain, processes, services, systems and applications.
7. 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.
8. 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.
9. 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.

Content Outline

Week	Lectures (Tuesday 2-5 PM at 260-040B OGGB)
1	Adaptive Enterprises
2	Architecting the Adaptive Sustainable Enterprise
3	Procedural Responses for Adaptation
4	Adaptive Sustainable Enterprises
5	Technological Responses for Adaptation
6	Dancing on the Edge of Chaos: Vision, Industry, and Strategy
7	Orchestrating the Adaptive Enterprise: Value Chains, Processes, and Services
8	Evolving Frameworks and Adaptive Architectures, Systems and Applications: Cloud-based, Social, Mobile, IoT Enterprises
9	Interweaving the Deliberate and Emergent: Models for Adaptive Sustainable Enterprises
10	From the Rational to the Anarchical: Competing on Big Data and Business Analytics
11	Roadmaps for Transformation: Change Management, Agile, SCRUM, DevOps, and XP
12	Conclusion

Week	Tutorials
2	*Vision2Action*
3	*SAP Solution Map Composer*
4	*ARIS*
5	*SAP ERP*
6	*SAP Solution Manager*
7	*AIMMS*
8	*iThink*
9	*SPSS Modeller*
10-12	*Assignment Help*

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.

Teaching Staff

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Coordinators and Tutors

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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

No	Component	Marks	Steps[1]	Due Date
1	Iteration 1 – Proposal	0	1-2	5PM, 31st July
2	Iteration 2 – Analysis	10	1-6, 8, 12, 13	5PM, 30th August
3	Iteration 3 – Design	10	7, 9-11, 13-15, 17	5PM, 6th October
4	Iteration 4 – Implementation	20	7, 9-11, 13-22	5PM, 27th October
5	Participation	10		
6	Exam	50		

Learning Outcome	Assessment
1	1,2,3,4,5,6
2	1,2,3,4,5,6
3	1,2,3,4,5,6
4	1,2,3,4,5,6
5	1,2,3,4,5,6
6	1,2,3,4,5,6
7	1,2,3,4,5,6
8	1,2,3,4,5,6
9	1,2,3,4,5,6

Inclusive Learning

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

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.

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

INFOSYS 737 Adaptive Enterprise Systems - Readings and Videos

1	**Adaptive Enterprises**
25-Jul	Enabling the Adaptive Enterprise https://www.youtube.com/watch?v=T2sG7SJ0ppA
	Customer Adaptive Enterprise https://www.youtube.com/watch?v=MWPsfxARrGk
	Designing for Happiness https://www.youtube.com/watch?v=n2rpIjWGeUY
	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=pkrFugJBAn4C&pg=PA1&source=gbs_toc_r&cad=3#v=onepage&q&f=false

2	**Architecting the Adaptive Enterprise**
1-Aug	Strategy to Action https://www.youtube.com/watch?v=phaRUCx8lHA
	Holistic BPM https://drive.google.com/open?id=0B_c_0iVkKqYLd0VJTUhjMGtBb2s
	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	**Procedural Responses for Adaptation**
8-Aug	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=lUP4WcfNyAA
	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	**Adaptive Sustainable Enterprises**
15-Aug	Truly Sustainable https://www.youtube.com/watch?v=SpIxZiBpGU0
	Corporate Social Responsibility https://www.youtube.com/watch?v=E0NkGtNU_9w
	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

5 **22-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=IIWVIa6QhkM
	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

6 **29-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

30-Aug 5 PM	**Submit *Assignment Proposal* using Canvas**

7 **19-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_QlYJRVvk
	Emig, C., Langer, K., Krutz, K., Link, S., Momm, C., and Abeck, S., 2006. The SOA's Layers. *Cooperation & Management.* Universität Karlsruhe, Karlsruhe.
	http://cm.tm.kit.edu/CM-Web/05.Publikationen/2006/[EL+06]_The_SOAs_Layers.pdf

8 **26-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
	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 **3-Oct**	**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-dDlRdLhWI
	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

6-Oct 5 PM	**Submit *Assignment Intermediate* using Canvas**

10 **10-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=t4wtzIuoY0w
	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://athene.nmbu.no/emner/pub/AOS234/AOS234%20files/Mintzberg_1995_Decision%20making.pdf
	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 **17-Oct**	**Roadmaps for Transformation: Change Management, Agile, SCRUM, DevOps, and XP**
	Change Management https://www.youtube.com/watch?v=3Jk6clmMycI
	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.) *Framing the Domains of IT Management: Projecting the Future Through the Past*, Cincinnati, OH: Pinnaflex Education Resources, Inc, 2000, pp. 173-207.
	http://www.mehralborz.ac.ir/newSite_file/91/MITM/ERP/Sec01/Sec01/resources/global/Complementary%20Docs/The%20Enterprise%20System%20Experience-%20From%20Adoption%20to%20Success.pdf
	Scott, J. & Vessey, I. Enterprise Systems Implementation Risks. *Communications of the ACM*, April 2002, pp. 74 - 81.
	http://dl.acm.org/citation.cfm?id=505249

Week 12 24-Oct	**Presentations and Conclusion**
27-Oct 5 PM	**Submit *Assignment Final* using Canvas**

INFOSYS 737 Assignment Specification – **A**nalysis **D**esign and **I**mplementation

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	1	1	1	**3**
14	Describe how you would ***sense, interpret,*** and ***respond*** to each of these 3 events - ***procedurally***		1.5	1.5	**3**
15	Describe how you would ***sense, interpret,*** and ***respond*** to each of these 3 events - ***technologically***		1.5	1.5	**3**
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		3	3	**6**
18	Describe a ***change management process*** to respond to the high disruption event in a sustainable manner			1	**1**
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**
		10	**10**	**20**	**40**

Plussage applies between Proposal, Intermediate and Final. That is if the mark for the *Implementation* is higher than the Analysis or Design then that mark will be adjusted to 40%. Bonus of 20% 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 8 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.