TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

# VICTORIA
### UNIVERSITY OF WELLINGTON

School of Information Management

# MBUA 510 BUSINESS AND SYSTEMS ANALYSIS

## Trimester 2, 2016

## COURSE OUTLINE

**Prescription**
This course covers the modelling and design techniques used by business analysts. It shows students the methods and tools used to document business flows, information analysis, rules, classes, and other related elements required for business analysis.

**Course Learning Objectives**
1.  Select the appropriate techniques for problem definition and information systems requirements
2.  Learn the modelling and design techniques of business analysis in order to provide creative solutions
3.  Understand the context in which business analysis is conducted (both agile and traditional environments)
4.  Apply the tools associated with object oriented modelling to complex real-life problems

**Trimester Dates**
Teaching Period: Monday 25th July – Friday 31st August

**Withdrawal from Course**
1.  Your fees will be refunded if you withdraw from this course on or before Friday 5th August 2016.

2.  The standard last date for withdrawal from this course is Friday 26th August 2016. After this date, students forced to withdraw by circumstances beyond their control must apply for permission on an '*Application for Associate Dean's Permission to Withdraw Late'* including supporting documentation. The application form is available from either of the Faculty's Student Customer Service Desks or online.

**Names and Contact Details**

|  | Staff | Contact details | Room | Office Hours |
|---|---|---|---|---|
| Course Coordinator & Lecturer | Yi-Te Chiu | yi-te.chiu@vuw.ac.nz 04 463 5689 | RWW208 | By appointment |
| Lecturer | Andreas Drechsler | andreas.drechsler@vuw.ac.nz 04 463 5625 | RH502 | By appointment |
| Programme Administration | Kim Hann Chris King | sim-ictgradschool@vuw.ac.nz 04 463 5103 | RH 521 | 9am-5pm |

**Class Times and Room Numbers**
Monday 9:30 am-12pm, 1pm-2:30pm
Wednesday 9:30 am-12pm, 1pm-2:30pm

Note: For each class day, there will 3 hours of contact with the lecturer and 1 hour of self-study and peer learning.
Location: WIG501 (ICT Graduate School premises, Wigan Street, Level 5, Room 501)

## Course Content
Please note that slight variations might be made to this schedule as the trimester progress.  Changes will be communicated in class and through Blackboard if necessary.

M1, M2: Monday seminars with lecturer
W1, W2: Wednesday seminars with lecturer
R: Resources for the seminar

| Weekly Schedule | | | |
|---|---|---|---|
| **Weeks** | | | **Topics** |
| **1** | **1. Introduction into Business Analysis (25 July)** | M1 | a.  Introduction and getting to know each other<br>b.  Information Systems, System Development Life Cycle, and IS methodologies (e.g., structured, RAD, agile) |
| | | M2 | a.  Understanding business analysis and business analyst |
| | | R | Paul, D., & Tan, Y. L. (2015, May). An Investigation of the Role of Business Analysts in IS Development. In *Proc. Twenty-Third European Conference on Information Systems, Münster, Germany* (Vol. 142).<br><br>Babar, A., Wong, B., & Abedin, B. (2014). Investigating the Role of Business Analysts Competencies into Strategic Business Requirements Gathering. In *PACIS* (p. 18).<br><br>Chapter 1 - What Is a Business Analyst? and Chapter 2 - The Evolution of the Business Analyst - in Blais, S. (2011). Business analysis: best practices for success. Hoboken, NJ: John Wiley & Sons.<br><br>Chapter 1 - Introduction to Systems Analysis and Design<br>Systems Analysis and Design with UML, Version 2.0: An Object-Oriented Approach, Fourth Edition by  Alan R. Dennis<br><br>O'Connor, S. (April 6th, 2016),  How to robot-proof your children's careers, The Financial Times. Retrieved from http://www.ft.com/intl/cms/s/2/0c7906d6-be89-11e5-9fdb-87b8d15baec2.html#axzz45Z00P3PO<br><br>Dinca, M. (April 4th, 2016),  A Business Analyst's Perspective: Seven Reasons For Project Failure, BA Times, Retrieved from http://www.batimes.com/articles/a-business-analyst-s-perspective-seven-reasons-for-project-failure.html |
| | **2. Problems, Goals, Visions & Team Composition (27 July)** | W1 | a.  Basics of problem identification: problem types, procedures, challenges<br>b.  Problem scope and context diagram<br>c.  Vision statement<br>d.  Becoming an effective team member |
| | | W2 | a.  Problem identification exercise result presentation & discussion<br>b.  Paper discussion on team management<br>c.  Team building exercise hand-out |

| | | | |
|---|---|---|---|
| | | R | Case: Coffee Co. (Description & Videos)<br><br>Chapter 8: Define the Problem in Blais, S. (2011). Business analysis: best practices for success. Hoboken, NJ: John Wiley & Sons.<br><br>Chapter 3: Goals in Alexander, I. & Beus-Dukic, L. (2009). Discovering Requirements: How to Specify Products and Services. Chichester, UK: John Wiley & Sons<br><br>**Context Diagram:**<br>http://www.ibm.com/developerworks/library/ararchdoc2/index.html?S_TACT=105AGX20&S_CMP=EDU<br><br>Gorla, N., & Lam, Y. W. (2004). Who should work with whom? Building effective software project teams. Communications of the ACM, 47(6), 79–82.<br><br>Chapter 9: Underlying competences in IIBA (2015). A guide to the business analysis body of knowledge v.3. Toronto, Canada: International Institute of Business Analysis.<br><br>Walker, J. (March 8th, 2016), An IT BA on a Cross-Functional Technology Team, BA Times, Retrieved from http://www.batimes.com/articles/an-it-ba-on-a-cross-functional-technology-team.html |
| 2 | **3. Requirements & Stakeholders (1 August)** | M1 | Requirements<br>    a. Understand requirements and their value (business, stakeholders, functional, non-functional, transitional, etc.)<br>    b. How to record requirements |
| | | M2 | Stakeholders<br>    a. Stakeholders and Stakeholder analysis<br>    b. Engaging with stakeholders |
| | | R | Markus, M. L., & Mao, J.-Y. (2004). Participation in development and implementation-updating an old, tired concept for today's IS contexts. Journal of the Association for Information Systems, 5(11-12), 515–544.<br><br>Chapter 2 – Business analysis key concepts and Ch3 (S3.2) Plan stakeholder engagement in IIBA (2015). A guide to the business analysis body of knowledge v.3. Toronto, Canada: International Institute of Business Analysis.<br><br>Iivari, J., Isomäki, H., & Pekkola, S. (2010). The user–the great unknown of systems development: reasons, forms, challenges, experiences and intellectual contributions of user involvement. Information Systems Journal, 20(2), 109–117.<br><br>Rowley, Jennifer. "e-Government stakeholders—Who are they and what do they want?." *International journal of Information management* 31.1 (2011): 53-62. |
| | **4. Problem discovery (3 August)** | W1 | Problem discovery – role, challenges and techniques to<br>    a. Analyse documents<br>    b. Design questionnaires<br>    c. Conduct interviews<br>    d. Record observations |
| | | W2 |     a. Problem discovery exercise result presentation, review & reflection<br>    b. Paper discussion on requirements determination |

| | | | |
|---|---|---|---|
| | | R | Browne, G. J., & Ramesh, V. (2002). Improving information requirements determination: a cognitive perspective. Information & Management, 39(8), 625–645.<br><br>Chapter 3: Requirements Determination in Dennis, A., Wixom, B., & Tegarden, D. (2014). Systems Analysis and Design with UML, Version 2.0: An Object-Oriented Approach, Fourth Edition. Hoboken, NJ: John Wiley & Sons.<br><br>Robertson, S. (2001). Requirements trawling: techniques for discovering requirements. International Journal of Human-Computer Studies, 55(4), 405–421.<br><br>Zhang, W. & Pastel, R. (2014). Communication is More than Verbal The Role of Clients' Documents in Requirement Solicitation. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Vol. 58. No. 1. SAGE Publications, 2014.<br><br>Chapter 2: Meeting guide in Podeswa, H. (2008). The Business Analyst's Handbook. Boston, MA: Cengage Learning. |
| 3 | **5. Use case modelling (8 August)** | M1 | Use case modelling<br>    a.   use case diagrams<br>    b.   use case descriptions |
| | | M2 |     a.   Presentation on use case diagrams and descriptions<br>    b.   Paper discussion on effective conceptual modelling and the impact of modelling |
| | | R | Chapter 4 - Business Process and Functional Modeling in Dennis, A. (2014) Systems Analysis and Design with UML, Version 2.0: An Object-Oriented Approach, Fourth Edition<br><br>Chapter 7 - Scenarios and steps and Chapter 11 – Use case formats in Alistair, C. (2001). Writing effective use cases. Boston, MA: Addison-Wesley.<br>Chaudron, Michel RV, Werner Heijstek, and Ariadi Nugroho. "How effective is UML modeling?." *Software & Systems Modeling* 11.4 (2012): 571-580.<br><br>Barrett, M., & Oborn, E. (2010). Boundary object use in cross-cultural software development teams. *Human Relations*, 63, 1199–1221. |
| | **6. Business process modelling (10 August)** | W1 | Business process modelling<br>    a.   Identify use cases from business process models<br>    b.   Activity diagram<br>Engage with stakeholders<br>    c.   Dealing with cognitive issues<br>    d.   Dealing with motivational issues |
| | | W2 | a. Modelling exercise results presentation & discussion<br><br>b. Paper discussion on stakeholder engagement |

| | | | |
|---|---|---|---|
| | | R | Chapter 4: Requirements Determination in Dennis, A., Wixom, B., & Tegarden, D. (2014). Systems Analysis and Design with UML, Version 2.0: An Object-Oriented Approach, Fourth Edition. Hoboken, NJ: John Wiley & Sons.<br><br>Chapter 15: Business Process Modelling in Cockburn, Alistair (2001). Writing effective use cases. Boston, MA: Addison-Wesley.<br><br>Coomber, M. (December 1st, 2015), Productivity Tools for Process Modelling in Visio, BA times, Retrieved from http://www.batimes.com/articles/better-tools-4-productivity-tools-for-process-modelling-in-visio.html<br><br>Chakraborty, S., Sarker, S., & Sarker, S. (2010). An exploration into the process of requirements elicitation: a grounded approach. *Journal of the Association for Information Systems*, 11, 212–249.<br><br>Cruz, E. F., Machado, R. J., & Santos, M. Y. (2014). From business process models to use case models: A systematic approach. In *Advances in Enterprise Engineering VIII* (pp. 167-181). Springer International Publishing.<br><br>Budgen, D., Burn, A. J., Brereton, O. P., Kitchenham, B. A., & Pretorius, R. (2011). Empirical evidence about the UML: a systematic literature review. *Software: Practice and Experience*, *41*(4), 363-392. |
| 4 | **7.<br>Process analysis and Information modelling (15 August)** | M1 | Information flow modelling with LINQ (www.linq.it) |
| | | M2 | Process Analysis<br>   a. Value-added analysis and Lean thinking<br>   b. Performance measurement and Impact assessment |
| | | R | Chapter 6 - Value-Added Analysis in Sue Conger, S. (2011) Process Leaning, in Process Mapping and Management<br><br>Chapter 8 - Define the Problem in Blais, S. (2011). Business analysis: best practices for success. Hoboken, NJ: John Wiley & Sons. (Chapter 1-2)<br><br>Ramirez, Ronald, Nigel Melville, and Edward Lawler. "Information technology infrastructure, organizational process redesign, and business value: An empirical analysis." *Decision Support Systems* 49.4 (2010): 417-429. |
| | **8.<br>Problem identification techniques (17 August)** | W1 |    a. Root cause analysis |
| | | W2 |    a. Root cause analysis exercise result discussion |
| | | R | Canada fruit case<br><br>Chapter 6 – Qualitative Process Analysis in Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). Fundamentals of business process management. Heidelberg, Germany: Springer<br><br>Chapter 10.40: Root-cause analysis in IIBA (2015). A guide to the business analysis body of knowledge v.3. Toronto, Canada: International Institute of Business Analysis.<br><br>Rooney, James J., and Lee N. Vanden Heuvel. "Root cause analysis for beginners." *Quality progress* 37.7 (2004): 45-56.<br><br>Ashok Sarkar, Shri, Arup Ranjan Mukhopadhyay, and Sadhan Kumar Ghosh. "Root cause analysis, Lean Six Sigma and test of hypothesis." *The TQM Journal* 25.2 (2013): 170-185. |

| 5 | | M1 | Alternative ways to capture problems and requirements:<br>   a. Storyboarding and design thinking<br>   b. Prototyping<br>   c. Idea generation techniques |
|---|---|---|---|
| | **9. Alternative elicitation techniques (22 August)** | M2 | a. Demonstration of alternative formats<br>b. Engage with stakeholders: Dealing with communication issues and diverse expertise |
| | | R | Sutherland, Malcolm, and Neil Maiden. "Storyboarding requirements."*Software, IEEE* 27.6 (2010): 9-11.<br><br>Sutcliffe, Alistair, Sarah Thew, and Paul Jarvis. "Experience with user-centred requirements engineering." *Requirements Engineering* 16.4 (2011): 267-280.<br><br>Maiden, N., Gizikis, A., & Robertson, S. (2004). Provoking creativity: Imagine what your requirements could be like. Software, IEEE, 21, 68–75.<br><br>Nguyen, L., & Shanks, G. (2009). A framework for understanding creativity in requirements engineering. Information and Software Technology, 51(3), 655–662.<br><br>Kellaway, L. (March 13th, 2016), Email: the weapon wielded by the passive aggressive colleague, The Financial Times. Retrieved from http://www.ft.com/intl/cms/s/0/dee75f5e-e635-11e5-a09b-1f8b0d268c39.html#axzz45Z00P3PO<br><br>Majchrzak, A., More, P. H., & Faraj, S. (2012). Transcending knowledge differences in cross-functional teams. Organization Science, 23(4), 951–970.<br><br>Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective. Academy of Management Journal, 44, 779–793.<br><br>Ambler, S., User Interface Design Tips, Techniques, and Principles, Retrieved from http://www.ambysoft.com/essays/userInterfaceDesign.html |
| | **10. Writing and testing requirements (24 August)** | W1 | Producing usable and testable requirements<br>   a. Write the requirement document<br>Business analysis and testing<br>   b. The connections between requirements and testing, types of tests, and test cases<br>   c. Verification and validation<br>Assessing the quality of business analysis<br>   d. How to measure business analyst performance |
| | | W2 | a. Discussion and review of requirement documents developed in the exercise<br>b. Paper discussion and deriving lessons learned |

| | | | |
|---|---|---|---|
| | | R | Bahill, A. T., & Henderson, S. J. (2005). Requirements development, verification, and validation exhibited in famous failures. Systems Engineering, 8, 1–14.<br><br>British Columbia, Business Requirements Document (BRD) Template, Retrieved from http://www.bced.gov.bc.ca/imb/downloads/cdmdt/dt_brd.doc<br><br>Writing a Requirements Document: Workshop Materials, Retrieved from http://www.cdl.edu/cdl_resources/writing-requirements<br><br>Chapter 14: Write the Solution Document and Chapter 16: Confirm the Business Problem Has Been Solved in Blais, S. (2011). Business analysis: best practices for success. Hoboken, NJ: John Wiley & Sons.<br><br>Chapter 7: Specifying Requirements in Kathleen B. Hass, Don J. Wessels and Kevin Brennan (2008), Getting It Right: Business Requirement Analysis Tools and Techniques<br><br>Firesmith, D. (2004). Prioritizing Requirements. Journal of Object Technology, 3, 35–48. |
| 6 | 11.<br>Agile business analysis (29 August) | M1 | Business analysis in Agile environment<br>    (a) Agile techniques: User stories, collaborative games, retrospectives, personas, backlogs |
| | | M2 | Challenges for BAs in Agile environment |
| | | R | Chapter 2 Business Analysis in Agile Approaches in Agile Extension to the BABOK Guide<br><br>Cao, L., & Ramesh, B. (2008). Agile requirements engineering practices: An empirical study. Software, IEEE, 25(1), 60–67.<br><br>Ramesh, Balasubramaniam, Lan Cao, and Richard Baskerville. "Agile requirements engineering practices and challenges: an empirical study."*Information Systems Journal* 20.5 (2010): 449-480.<br><br>Daneva, M., Van Der Veen, E., Amrit, C., Ghaisas, S., Sikkel, K., Kumar, R., … Wieringa, R. (2013). Agile requirements prioritization in large-scale outsourced system projects: An empirical study. Journal of Systems and Software, 86(5), 1333–1353.<br><br>West, Dave. "Water-scrum-fall is the reality of agile for most organizations today." *Forrester Research* (2011).<br><br>Williams, Laurie. "Agile software development methodologies and practices."*Advances in Computers* 80 (2010): 1-44.<br><br>Hoda, Rashina, James Noble, and Stuart Marshall. "Organizing self-organizing teams." *Proceedings of the 32nd ACM/IEEE International Conference on Software Engineering-Volume 1*. ACM, 2010. |
| | 12.<br>Complex projects & emergent technologies (31 August) | W1 | a. Business analysis and complex projects (Lecture: 15 mins, Recap & discussion: 45 mins)<br>b. Business analysis and emerging technologies (Lecture: 10 mins) |
| | | W2 | a. Poster presentations and discussions about challenges in complex project situations and implications of emergent technologies for the future of business analysis<br>b. Outlook toward the subsequent Process Design course<br>c. Feedback and Q&A |

| | | | |
|---|---|---|---|
| | | R | Bergman, M., King, J. L., & Lyytinen, K. (2002). Large-scale requirements analysis revisited: the need for understanding the political ecology of requirements engineering. Requirements Engineering, 7, 152–171. |
| | | | Vlaar, P. W., van Fenema, P. C., & Tiwari, V. (2008). Cocreating understanding and value in distributed work: How members of onsite and offshore vendor teams give, make, demand, and break sense. MIS Quarterly, 32, 227–255. |
| | | | Zigurs, I., & Munkvold, B. E. (2014). Collaboration technologies, tasks, and contexts. In Galletta, D., & Zhang, P. (Eds.): Human-Computer Interaction and Management Information Systems: Applications. Advances in Management Information Systems, Volume 6, Armonk, NY: M.E. Sharpe, pp. 143–169. |
| | | | McLellan, C. (November 3rd, 2014), Analysing the analysts: Predicting emerging technologies, ZDNet. Retrieved from http://www.zdnet.com/article/analysing-the-analysts-predicting-emerging-technologies/ |
| 7 | 5 Sept | M1 | Final test |

## Course Delivery

The course is offered over six weeks, two days a week. Typically, a day will start with a presentation and a discussion of theoretical elements, followed by a workshop in which students will apply the concepts seen that morning to a simple situation. The afternoon session will follow a similar format. Students are expected to use afternoon workshop to apply the concepts seen in class to their project. This course will develop your ability for team work. Learning materials for this course are delivered in complementary ways: through (i) lectures and workshops; (ii) resources on the (Blackboard) website; and (iii) on the IIBA website. Each method is both important and necessary to achieve the course objectives.

## Readings

Readings for each week can be found in the IIBA online library (http://www.iiba.org/Learning-Development/Online-Library.aspx) and course website on BlackBoard. To be able to access the library, you need to become an IIBA member. Check Blackboard for the registration process and discount code.

If you cannot complete an assignment or sit a test or examination, refer to www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

## Expected Workload

This is a 15-point course. One point equates to approximately 10 hours of work, for a total of 150 hours for the course. You are expected to attend all course sessions, read assigned materials, and contribute to workshop activities. With 12 three-hour classes, a total of 36 in-class hours are required.  The remaining 114 hours will be spread over the 6 teaching weeks. The following breakdown estimates the required time for each task, giving you a rough idea of how much time you may need to spend.
- Class preparation: 45 hours
- Class journal: 45 hours
- Application-oriented activities between a morning and afternoon class: 12 hours
- Business analysis project: 40 hours
- Test: 8 hours

**Assessment**

| Requirement | Due Date | Weight |
|---|---|---|
| **Class journals via blogging** (10 x 3%) (LO 1–4) Note: <u>Students have to submit 10 of 12 Class journals</u>. The main goal of the class journal is to document the key lessons learned for each topic continuously over the semester and how they relate to the intended future professional role as business analysts. Students should add new entries to the lecture blog after each topic. The class journals should contain results of class exercises as well as the following elements: (a) a recap of the learned knowledge and competences, b) a reflection on the key lessons learned and how they relate to past topics of this or other courses, and c) how the gained knowledge and competences will aid students in their future professional careers. An ideal blog post should be between 800 -1,200 words, excluding tables and figures. The blog post should be uploaded by the end of the same day of the class. | 11:59 pm, the same day of the class | 30% |
| **Final project** (LO 1–4) The main goal of the business analysis project is to learn principles, techniques, and best practices of business and systems analysis and apply them to a realistic business setting. | 5 pm, 9 September | 40% |
| **Final test** (LO 1–4) The test is intended to evaluate your knowledge of business analysis and models. It will cover all class material. | 9:30 am – 12:30 pm, 5 September | 30% |

The Assessment Handbook will apply to all VUW courses: see
http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf.

**Penalties**
The penalty for late submission of work without a prior extension arrangement is a reduction of 10% of the available marks each calendar day, starting from the due date and time, up to 5 days after the due date. At the course coordinator's discretion, work handed in after 5 days may be assessed and feedback provided, but no grade will be assigned.

**Extensions**
Personal extensions are granted only in special circumstances and supporting evidence such as a medical certificate may be requested by the course coordinator.

**Group Work**
Students are required to work together in some workshop as well as participate in team activities in the classroom.

**Use of Turnitin**
Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine http://www.turnitin.com. Turnitin is an on-line plagiarism prevention tool which compares submitted work with a very large database of existing material. At the discretion of the Head of School, handwritten work may be copy-typed by the School and submitted to Turnitin. A copy of submitted materials will be retained on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

**Materials and Equipment**
**Software**: Students will involve requirements modelling using Linq and Lucidchart. This software is available through a web browser. Instructions will be provided on BlackBoard.

**Student feedback**
*Not applicable as this is the first time the course is offered.*

**Communication of Additional Information**
Additional information or changes will be conveyed by means of in-class announcements, Blackboard, and e-mail. Please ensure that you check these communication channels regularly.

**Link to general information**
For general information about course-related matters, go to
http://www.victoria.ac.nz/vbs/studenthelp/general-course-information

**Note to Students**
Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

<div align="center">

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

</div>