



Business School

**School of Information Systems and
Technology and Management**

Never Stand Still

Business School

INFS5700 INTRODUCTION TO BUSINESS ANALYTICS

Course Outline Semester 2, 2016

Part A: Course-Specific Information

Please consult Part B for key information on Business School policies (including those on plagiarism and special consideration), student responsibilities and student support services.

business.unsw.edu.au

CRICOS Code 00098G

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PART A: COURSE-SPECIFIC INFORMATION

1 STAFF CONTACT DETAILS

	Name	Office	Email:	Telephone
Lecturer-in-Charge (LIC)	Zixiu Guo	QUAD 2108	z.guo@unsw.edu.au	9385 7174
Tutor	Vincent Pang	QUAD 2112	vincent.pang@unsw.edu.au	9385 7835

Zixiu's consultation time is on Monday from 2:30-4:30pm or by appointment.

2 COURSE DETAILS

2.1 Teaching Times and Locations

At the time of publication of this course outline the teaching times and locations are as follows:

Component	Day	Time	Location	Duration
Seminar	Tuesday	18-21	BUS205/QUAD2082	Week 1 – Week 12

For latest information about seminar locations see:
<http://www.timetable.unsw.edu.au/current/INFS5700.html>.

2.2 Units of Credit

The course is worth 6 units of credit.

There is no parallel teaching in this course.

2.3 Summary of Course

This course provides students an understanding of business needs and technology trends driving investment in business analytics and big data technologies. The course also presents the fundamentals of implementing and managing business analytics in organisations. The course is structured in a combination of lectures and workshops. In lectures, students will learn business analytics methods and tools as well as the challenges associated with implementing business analytics projects. During workshops, through real-world case studies, students will develop their understanding of the applications of business analytics as well as the social and ethical implications of business analytics. During the workshop, students will also explore some of the leading BA software. Students will improve their critical thinking, problem solving, research, communication, and team-working skills through their group assignments.

Topics that are covered in this course include: computer supported decision making; business analytics concepts, methods, and frameworks; frameworks for putting analytics to work; the governance, oversight and business value gained from business

analytics within organisations; ethical and social implications of business analytics; and future directions for business analytics.

2.4 Course Aims and Relationship to Other Courses

This course aims to expose students to BA technologies, data analytics skills, and management practices that organisations are applying in order to improve business performance, to make better evidence-based decisions, and to take right actions needed to succeed. Emphasis is placed on learning not only technical and analytical skills, but also how to put business analytics into work and get the most value from large amount of data. This course will also help you to refine your communication skills, analytical thinking skills, and group work skills, and assist you in the development of your research skills.

2.5 Student Learning Outcomes

The Course Learning Outcomes are what you should be able to DO by the end of this course if you participate fully in learning activities and successfully complete the assessment items.

By the end of this course, you should be able to:

- Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage.
- Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them to enhance decision-making.
- Investigate the challenges and critical successful factors associated with being business analytically capable and their impacts on organisations.
- Research the emerging trends of business analytics tools and practices in industry
- Demonstrate communication, research, analytics, and collaboration skills.

The Learning Outcomes in this course also help you to achieve some of the overall Program Learning Goals and Outcomes for all postgraduate coursework students in the Business School. Program Learning Goals are what we want you to BE or HAVE by the time you successfully complete your degree (e.g. 'be an effective team player'). You demonstrate this by achieving specific Program Learning Outcomes – what you are able to DO by the end of your degree (e.g. 'participate collaboratively and responsibly in teams').

For more information on the Postgraduate Coursework Program Learning Goals and Outcomes, see Part B of the course outline.

The following table shows how your Course Learning Outcomes relate to the overall Program Learning Goals and Outcomes, and indicates where these are assessed (they may also be developed in tutorials and other activities):

Program Learning Goals and Outcomes		Course Learning Outcomes	Course Assessment Item
<i>This course helps you to achieve the following learning goals for all Business postgraduate coursework students:</i>		<i>On successful completion of the course, you should be able to:</i>	<i>This learning outcome will be assessed in the following items:</i>
1	Knowledge	<ul style="list-style-type: none"> • Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage. • Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them to enhance decision-making. • Investigate the challenges and critical successful factors associated with being business analytically capable and their impacts on organisations. • Research the emerging trends of business analytics tools and practices in industry 	<ul style="list-style-type: none"> • Workshop Participation • Group Assignment • Mid-Term Exam • Exam
2	Critical thinking and problem solving	<ul style="list-style-type: none"> • Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage. • Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them to enhance decision-making. • Investigate the challenges and critical successful factors associated with being business analytically capable and their impacts on organisations. • Research the emerging trends of business analytics tools and practices in industry. • Demonstrate communication, research, analytics, and collaboration skills. 	<ul style="list-style-type: none"> • Workshop Participation • Group Assignment • Exam
3a	Written communication	<ul style="list-style-type: none"> • Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage. • Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them 	<ul style="list-style-type: none"> • Workshop Participation • Group Assignment • Exam

		<p>to enhance decision-making.</p> <ul style="list-style-type: none"> • Investigate the challenges and critical successful factors associated with being business analytically capable and their impacts on organisations. • Research the emerging trends of business analytics tools and practices in industry. • Demonstrate communication, research, analytics, and collaboration skills. 	
3b	Oral communication	<ul style="list-style-type: none"> • Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage. • Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them to enhance decision-making. • Investigate the challenges and critical successful factors associated with being business analytically capable and their impacts on organisations. • Research the emerging trends of business analytics tools and practices in industry. • Demonstrate communication, research, analytics, and collaboration skills. 	<ul style="list-style-type: none"> • Workshop Participation • Group Assignment
4	Teamwork	<ul style="list-style-type: none"> • Research the emerging trends of business analytics tools and practices in industry. • Demonstrate communication, research, analytics, and collaboration skills. 	<ul style="list-style-type: none"> • Workshop Participation • Group Assignment
5a	Ethical, environmental and sustainability responsibility	Not specifically addressed in this course.	
5b	Social and cultural awareness	<ul style="list-style-type: none"> • Critically evaluate the role of data in supporting management decision-making and gaining competitive advantage. • Discuss and evaluate Business Analytics framework, techniques and tools used in gathering, analysing, and managing data, and apply them to enhance decision-making. • Investigate the challenges and 	<ul style="list-style-type: none"> • Exam

		<p>critical successful factors associated with being business analytically capable and their impacts on organisations.</p> <ul style="list-style-type: none"> • Research the emerging trends of business analytics tools and practices in industry. • Demonstrate communication, research, analytics, and collaboration skills. 	
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3 LEARNING AND TEACHING ACTIVITIES

3.1 Learning Activities and Teaching Strategies

The course involves three key components in your learning – the lecture, the workshop, and your private study.

Since this course is arranged for postgraduate students, each lecture is organised as a seminar, and not as a series of lectures only. This approach assumes that the lecturer and students can work together in a collaborative fashion. To achieve this goal, each week’s seminar is designed in a mixed format of lectures and workshops.

The role of the lecturer in this environment is to establish a framework and put together a set of materials for discussion, and to create the conditions suitable for learning. The underlying assumption is that we are all co-producers in learning.

It is essential in a seminar-based course such as this for both students and lecturer to participate equally to the discussion. It is assumed that students will have read and thought about the assigned materials **before** class and come prepared to contribute to the class discussion.

Students will also be given an opportunity to have basic hands-on experience and practical proficiency by using various BA tools, such as SAS Enterprise Miner, Text Miner, and Visual Analytics during the workshop.

A major aim of tertiary institutions is the development of self-management skills. Thus, your self-directed private study is the most important component of this course. To assist your study each week has a “Reading List. These readings are required readings for you to get engaged into the classroom discussion. In addition, private study also includes reading more widely. The relevant material can be sourced from books, journals and the Internet and will enable you to acquire a better understanding of the course. The readings, self-assessment exercises and your own topic summaries form the basis of an excellent private study regime. Keeping up to date is very important and each week builds on the prior weeks so it is important that you get your study regime organised quickly.

3.2 Forming a Group

You are required to form a group of 4 members to complete your group assignments. The groups have to be formed at the end of WEEK EIGHT. Try to create a good mix of people based on background and experiences. Your group must be self-managing.

Each group needs to have a leader. Turn in a group list that includes all members' name, student ID, email address, and indicating the leader. You are required to keep your group meeting minutes for peer evaluation and project management purpose.

3.3 Peer Evaluation

All members of the group are expected to participate equally in all group activities. To ensure that this occurs, a peer evaluation form will be distributed near the end of each group assignment. Each student will be asked to rate the effort of each group member in completing the assignments. This quantitative rating result will be used in the determination of the final mark of each student in a group. If there are arguments about the contribution evaluation, an open discussion between students about relative contribution will be held in the lecturer's presence. **In order to encourage your participation, questions derived from your group assignment may be assessed in the final examination.**

4 ASSESSMENT

4.1 Formal Requirements

To receive a pass grade in this course, you must meet ALL of the following criteria:

- Attain an overall mark of at least 50%.
- Attend at least 80% of all scheduled classes.
- Attain a satisfactory performance in each component of the course. A mark of 45% or higher is normally regarded as satisfactory.
- Attain a mark of at least 45% in the final exam.
- In the case of peer assessed group work, the mark assigned to each member of the group may be scaled based on peer assessment of each member's contribution to the task.

It should be noted that group members are expected to work in a harmonious and professional fashion which includes adequate management of non-performing members.

4.2 Assessment Details

Assessment Task	Weighting	Mode	Due Date
Workshop Participation	20%	Individual	Weeks 1 to 12
Mid-Term Exam	10%	Individual	Week Seven
Group Assignment	30%	Group	(1) Group Report: 5pm 14 th October 2016 (2) Personal Reflection: 5pm Friday 21 st October 2016 (3) Peer Assessment Form: 5pm Friday 21 st October 2016

Final Exam	40%	Individual	University Exam Period
Total	100%		

Workshop Participation

Running a course as a seminar means that students are expected to participate and contribute equally to the discussion. Apart from being assessed in completing assigned homework, you will also be assessed in class discussion activities. Such contribution to class discussion will be assessed based on the quality of comments and willingness to participate. Another part of workshop participation is based on how well you develop your appreciation of BA tools in business environments. Students are expected to work individually to complete a set of lab exercises in order for them to experience data mining and text mining process and appreciate skills required for creating highly accurate predictive and descriptive models based on large volumes of data from across the enterprise.

This assessment has been designed to develop your critical thinking, researching, communication skills, as well as to improve your hands-on experience. Each student is assigned 20 marks for the workshop participation. However, they are graded based on the following guidelines:

Marks Guide

Mark	Guide
0	Below 80% of attendance as required by school (including guest lectures)
1-6	Has satisfied the attendance requirement but has not contributed to class activities, not completed homework.
7-10	Has satisfied the attendance requirement, completed the homework, participated in team activities during class and contributed to class discussion.
11-15	Has satisfied the attendance requirement, completed the homework at good quality, has participated in team activities during class and contributed to class discussion in relevant and constructive ways.
16-20	Has satisfied all of the above and demonstrated excellence in their contribution to the dynamics of the course.

The purpose of the workshop participation mark is to encourage a high level of participation in the course as high levels of participation greatly assist individual students in their understanding the material and its application. It also provides the opportunity to learn from others experience and it makes the seminars even more enjoyable and worthwhile.

This is an individual level ongoing weekly assessment starting from week one to week 12 (inclusive).

Group Assignment

The assessment in BA has a strong component in researching current BA issues and trends. This group based research report is designed to improve and test your professional competencies for effective work in organisations in terms of researching, analysing, writing, presenting and working collaboratively.

In this assignment you are being asked to work in a group of 4 members to provide an in-depth understanding of an important emerging trend in the area of BA. Then in

weeks 12, each group is required to give a 20-minute presentation. Each group member is also required to provide a 500-600 word reflective note regarding this group work. The detailed requirement will be available on the course website.

Final Examination

A final examination worth 40% of the overall marks will be run during the examination period. The final examination will cover ALL TOPICS in this course. Further details of this exam will be provided in lecture revision section.

The aim of the final examination is to enable you to demonstrate to the examiner that you have achieved all the learning outcomes for this course and that you have achieved a level of competency regarding Business Intelligence topics, as well as the capacity to use the competency to apply it analytically and critically in an organisational environment.

4.3 Assessment Format and Assignment Submission Procedure

All assignments are to be submitted as a soft copy via course website Assignment Submission System. Assignments will be screened with plagiarism-detecting software. Information about the format and marking criteria for all assessable work is contained in the requirements for each assignment, which will be made available on the course website. The cover page is required for all submissions. ALL group members are required to sign the submission document. An individual peer evaluation form is required for all group assignments.

Students are required to keep a copy for all assignments submitted and keep the marked assignments.

4.4 Late Submission

Late submission of an assignment is not desirable. Assignments are to be submitted on—or better before—the due date. The late submission of assignments carries a penalty of 10% of the awarded marks for that assignment per day of lateness (including weekends and public holidays) unless an extension of time has been granted by the Lecturer-in-Charge. An extension of time to complete an assignment may be granted by the Lecturer-in-charge in case of misadventure or illness. Applications for an extension should be made to the Lecturer-in-Charge by email or in person before the due date. You will be required to substantiate your application with appropriate evidence such as medical certificates, accident reports etc. Please note that workload, work commitments and computer failures are usually considered insufficient grounds for an extension.

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.

5 COURSE RESOURCES

5.1 Course Website

The website for this course is on UNSW Moodle at:
<https://moodle.telt.unsw.edu.au/login/index.php>

Textbook

The textbooks for this course are:

- (1) Business Intelligence: A Managerial Perspective on Analytics: *International Edition*, 3rd edition, by: Ramesh Shadra, Dursun Delen, and Efraim Turban; Pearson Publishing, 2014. ISBN 10: 1-292-00487-8; ISBN 13: 978-1-292-00487-7
- (2) *Analytics at Work: Smarter Decisions, Better Results*; by Thomas H. Davenport, Jeanne G. Harris, Robert Morison; Harvard Business Press, 2010. ISBN: 1422177696; ISBN-13: 978-1-4221-7769-3 (e-book is available at Harvard Business Review: <http://hbr.org/product/analytics-at-work-smarter-decisions-better-results/an/12167E-KND-ENG>)

You will require unimpeded access to the text throughout the course. **You will need to bring the text to the weekly lectures.**

Students should note that they are expected to read more widely than the prescribed text - other material will be recommended from time to time throughout the semester.

5.2 Additional Readings

Most weeks will involve one or more articles from academic journals, professional journals and other sources. Some of these readings are considered essential and form a key component of the course. Other readings are considered optional and are made available for those who wish to read a little further on the topic at hand.

Both the essential and optional readings are listed on the topic pages on the course website and weekly lecture notes. Each reading is available electronically and can be accessed and downloaded from the relevant journal on the 'electronic journals' function the UNSW library Sirius system. (<http://sirius.library.unsw.edu.au/>).

The readings from the textbooks and essential readings are considered examinable.

6 COURSE EVALUATION AND DEVELOPMENT

Each year feedback is sought from students and other stakeholders about the courses offered in the School and continual improvements are made based on this feedback. UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process is one of the ways in which student evaluative feedback is gathered. In this course, we will seek your feedback through end of semester CATEI evaluations.

7 COURSE SCHEDULE

Week	Topic	References**
Week 1 26 July	<ul style="list-style-type: none"> • Introduction to the Course and Business Analytics • Introduction to the software 	
Week 2 2 August	An Overview of Business Intelligence, Analytics, and Decision Support	<ul style="list-style-type: none"> • (1) Chap 1, 6.1-6.3 • Additional readings
Week 3 9 August	Visual Analytics 1	<ul style="list-style-type: none"> • (1) Chap 3 • Additional readings
Week 4 16 August	Visual Analytics 2	<ul style="list-style-type: none"> • (1) Chap 3 • Additional readings
Week 5 23 August	Data Mining 1	<ul style="list-style-type: none"> • (1) Chap 4 • Additional readings
Week 6 30 August	Data Mining 2	<ul style="list-style-type: none"> • (1) Chap 4 • Additional readings
Week 7 6 September	Mid-Term Exam	
Week 8 13 September	Text and Web Analytics 1	<ul style="list-style-type: none"> • (1) Chap 5 • Additional readings
Week 9 20 September	Text and Web Analytics 2	<ul style="list-style-type: none"> • (1) Chap 5 • Additional readings
Mid-semester break: Saturday 24 September – Sunday 2 October inclusive Monday 3 October – Labour Day Public Holiday		
Week 10 4 October	Put Analytics to Work (1)	<ul style="list-style-type: none"> • (2) • Additional Readings
Week 11 11 October	<ul style="list-style-type: none"> • Put Analytics to Work (2) • Exam revision 	<ul style="list-style-type: none"> • (2) • Additional Readings
Week 12 18 October	Group Project Presentation	

*Lectures are subject to alteration and not all materials in chapters listed will be covered.

** : (1) refers to textbook 1, (2) refers to textbook 2. Apart from chapters listed here, additional readings published on the web are also required.