TABL2058
Quantitative Analysis

Course Outline
Semester 2, 2014
Quantitative Analysis

Quantitative Analysis is an introductory course in mathematical and statistical concepts and techniques with applications in commerce and taxation. This course will train you in essential quantitative skills and show how these skills can be used in formulating and solving a wide variety of problems in economics, accountancy, finance and taxation. In this course the applications of mathematical and statistical methods in commerce and taxation are more than mere illustrations; they constitute an integral part of the course material.

Quantitative Analysis is intended to be as simple, comprehensive and self-sufficient as practicable. It introduces and develops mathematical and statistical ideas and techniques from the basic principles, assuming very little mathematical knowledge on your part. The course is programmed midway through the BTax Accounting stream but if you need earlier skilling in mathematics and statistics, you may undertake the course earlier in your program.

Semester 2, 2014
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### STUDY GUIDE

- Module 1 Elementary algebra, functions and models
- Module 2 Mathematics of finance and accountancy
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- Module 4 Introduction to probability theory
- Module 5 Estimation and hypothesis testing
- Module 6 Correlation and regression analysis
About the lecturer

Binh Tran-Nam
BEC (Hons) James Cook  MEc ANU  PhD UNSW

Binh Tran-Nam is tenured Associate Professor at the Australian School of Taxation and Business Law (Atax) within the Australian School of Business of the University of New South Wales (UNSW) in Sydney, Australia. He currently serves as the convenor for the Atax Research Fellowship Scheme and a founding joint editor of the eJournal of Tax Research (http://www.asb.unsw.edu.au/research/publications/ejournaloftaxresearch/Pages/default.aspx) and International Journal of Development and Conflict (http://www.worldscinet.com/ijdc/mkt/editorial.shtml).

Binh was born in Hai Phong and grew up in Sai Gon, Vietnam. Upon completing high school, he received a Colombo Plan scholarship to study in Australia. He obtained a Bachelor Degree in economics (first class honours and university medal) from James Cook University in 1976. Subsequently he won an Australian National University (ANU) Scholarship to complete a prestigious Masters Degree in economics by course work at the ANU. His association with the UNSW began in 1978, when he was awarded a Commonwealth Postgraduate Research Award to undertake a doctoral degree in economics.

Since his graduation from UNSW in early 1982, Binh has held teaching appointments at the University of Auckland (New Zealand), University of Technology Sydney, Deakin University, Nagoya City University (Japan) and the University of California (Santa Barbara) as well as various research fellowships at UNSW. He has taught, at various levels, a wide range of economic subjects including microeconomics, macroeconomics, managerial economics, industrial economics, public finance, international trade, quantitative methods and econometrics. He has also successfully supervised a small number of doctoral students.

His research interests include taxation, public finance, international
trade, development economics and models of overlapping generations. He has published research papers in refereed academic journals in Australia, Germany, Japan, the Netherlands, New Zealand, the UK and the US, including *British Tax Review*, *Economic Letters*, *Economic Record*, *Journal of Development Economics*, *Journal of Economics*, *National Tax Journal*, *Oxford Economic Papers* and *Public Finance*. More recently he has developed an interest in transition economies in general and Vietnam in particular. His research in this area has yielded several articles and co-edited books, including *The Vietnamese Economy: Awakening the Dormant Dragon* which was published by Routledge in January 2003.

He has had a solid track record in attracting peer review grants, including four Australian Research Council (ARC) Linkage grants, a small ARC grant and several Faculty grants. Other competitive funding that he has obtained includes the 2006 San Jose State University International Tax Policy Research Fellowship, the 2011 Curtin University Visiting Research Fellowship and grants from the Academy of the Social Sciences in Australia, Australian Agency for International Development (AusAID), Australia–Korea Foundation and CPA Australia. He has also acted as a consultant to AusAID, the Australian Taxation Office, the Australian Vice Chancellors’ Committee, the Board of Taxation, the Inland Revenue of New Zealand, the NSW Taxpayers Foundation, UNDP Vietnam, Victorian Community Services and World Bank Vietnam.
Letter of introduction

I would like to take this opportunity to welcome you to the *Quantitative Analysis* course of the Atax program. In particular, I wish to congratulate those of you who have successfully completed half of your degree, and trust that you will maintain your enthusiasm for *Quantitative Analysis*. This course is a core unit in the Accounting stream of the BTax Degree. It is closely related to other accounting and economics courses in the BTax degree program. In fact, I shall from time to time draw on concepts and models studied in introductory accounting, microeconomics and macroeconomics.

As many of you may have not done any mathematics for a long time, I have tried my best to make *Quantitative Analysis* as simple, comprehensive and self-sufficient as practicable. Those of you who have not touched ‘maths’ for some time or do not feel comfortable with maths will undoubtedly benefit from a refresher in elementary algebra. Any Year 10 or Year 11 maths textbook is a good starter. In addition, there is a comprehensive list of recommended readings provided later in this Course Outline. Please note that there is no substitution for hard work and practice in *Quantitative Analysis*.

Learning and mastering quantitative methods is not an easy task but I trust that you will find the course both interesting and beneficial, especially in the long run. Please read the Course Outline very carefully and do not hesitate to contact me on all academic matters relating to the course (see contact details later in this Course Outline).

*Binh Tran-Nam*
Introduction to the course

Relationship to other courses in program

TABL2058 is a compulsory course in the Accounting stream of the BTax degree program. It is related to TABL1005 Accounting 1, TABL1003 Microeconomics and the Australian Tax System and TABL1011 Macroeconomics, Government and the Economy. In fact, TABL2058 will, from time to time, draw on concepts and models studied in TABL1005, TABL1003 and TABL1011.

Course summary

Mathematics is a language in its own right, possessing many features in common with English. Modern commerce graduates are expected to be familiar with the precise and universal language of mathematics. As early as 1956, the American Social Sciences Research Council recommended social scientists be exposed to a vast array of mathematical tools including set theory, functions, calculus, probability, matrix theory, difference equations, differential equations and integration. While it is too ambitious to expect commerce graduates to be proficient in all the above areas, it is beyond doubt that those graduates who wish to pursue a successful career in commerce and taxation need to be quantitatively competent. This is especially true for auditors and for tax professionals who may have to handle large amount of numerical information and who may be called upon to formulate, quantify and justify various mathematically complicated phenomena.

TABL2058 Quantitative Analysis is an introductory course in mathematical and statistical concepts and techniques with applications in commerce and taxation. This course will train you in essential quantitative skills and show how these skills can be used in formulating and solving a wide variety of problems in economics, accountancy, finance and taxation. In this course the applications of mathematical and statistical methods in commerce and taxation are more than mere illustrations; they constitute an integral part of the course material. The standard prerequisite to an introductory quantitative course is a two-unit secondary school course in mathematics. Some knowledge in algebraic manipulations, linear and quadratic equations, simple functions and graphs is typically assumed.
However, in view of the fact many Atax students may not have done any study for a long time, Quantitative Analysis is intended to be as simple, comprehensive and self-sufficient as practicable. This course introduces and develops mathematical and statistical ideas and techniques from the basic principles, assuming very little mathematical knowledge on your part. Naturally, those of you who do not feel comfortable with mathematics will undoubtedly benefit from a refresher in elementary algebra. The course is programmed midway through the BTax Accounting stream but if you need earlier skilling in mathematics and statistics, you may undertake the course earlier in your course.

Course objectives

TABL2058 seeks to develop your skills and knowledge in the following areas:

- algebraic operations, and solving equations and inequalities
- functions, and economics and business models
- sequences, series, progressions, and mathematics of finance and accountancy (interest, present values, annuities and depreciation)
- descriptive statistics including data collection, data presentation, and summary measures of central tendency and variability
- probability theory (counting techniques, probability axioms and properties, random variables, probability density functions, cumulative distribution functions, expected values and variances, and the binomial, Poisson and normal distributions)
- basic inferential statistics including sampling distributions, statistical estimation, hypothesis testing and regression analysis.

Student learning outcomes and goals

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. The learning outcomes in this course will help you to achieve some of the overall learning goals for your program. These program learning goals are what we want you to be or have by the time you successfully complete your degree. The following is a list of the Business School program learning goals for undergraduate students.
Business School Undergraduate Program Learning Goals

1. **Knowledge: Our graduates will have in-depth disciplinary knowledge applicable in local and global contexts.**

   You should be able to select and apply disciplinary knowledge to business situations in a local and global environment.

2. **Critical thinking and problem solving: Our graduates will be critical thinkers and effective problem solvers.**

   You should be able to identify and research issues in business situations, analyse the issues, and propose appropriate and well-justified solutions.

3. **Communication: Our graduates will be effective professional communicators.**

   You should be able to:
   
   a) Prepare written documents that are clear and concise, using appropriate style and presentation for the intended audience, purpose and context, and
   
   b) Prepare and deliver oral presentations that are clear, focused, well-structured, and delivered in a professional manner.

4. **Teamwork: Our graduates will be effective team participants.**

   You should be able to participate collaboratively and responsibly in teams, and reflect on your own teamwork, and on the team’s processes and ability to achieve outcomes.

5. **Ethical, social and environmental responsibility: Our graduates will have a sound awareness of the ethical, social, cultural and environmental implications of business practice.**

   You should be able to:
   
   a) Identify and assess ethical, environmental and/or sustainability considerations in business decision-making and practice, and
   
   b) Identify social and cultural implications of business situations.
The following table shows how your Course Learning Outcomes relate to the overall Program Learning Goals, and indicates where these are developed and assessed:

<table>
<thead>
<tr>
<th>Program Learning Goals</th>
<th>Course Learning Outcomes</th>
<th>Course Assessment Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>This course helps you to achieve the following learning goals:</strong></td>
<td><strong>On successful completion of the course, you should be able to:</strong></td>
<td><strong>This learning outcome will be assessed in the following items:</strong></td>
</tr>
<tr>
<td>1 <strong>Knowledge</strong></td>
<td>Demonstrate a working knowledge of mathematical and statistical ideas and techniques relevant to quantitative problems encountered in economics, accountancy, finance and taxation.</td>
<td>Module Activities</td>
</tr>
<tr>
<td></td>
<td>Demonstrate a set of quantitative skills which will enable you to analyse large amounts of numerical information and formulate, quantify and justify various mathematically complicated phenomena.</td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Demonstrate foundation knowledge and skills in descriptive statistics, probability theory and basic inferential statistics.</td>
<td>Examination</td>
</tr>
<tr>
<td>2 <strong>Critical thinking and problem solving</strong></td>
<td>Apply essential quantitative skills in formulating and solving a wide variety of problems in economics, accountancy, finance and taxation.</td>
<td>Module Activities</td>
</tr>
<tr>
<td>3a <strong>Written communication</strong></td>
<td>Present clear and logically contructed analysis of quantitative problems, using graphical and algebraic representations where appropriate, in a manner that is clearly understood by the target audience.</td>
<td>Assignments</td>
</tr>
<tr>
<td>3b <strong>Oral communication</strong></td>
<td>Not specifically addressed in this course.</td>
<td>Examination</td>
</tr>
<tr>
<td>4 <strong>Teamwork</strong></td>
<td>Not specifically addressed in this course.</td>
<td></td>
</tr>
<tr>
<td>5a. <strong>Ethical, environmental and sustainability responsibility</strong></td>
<td>Not specifically addressed in this course.</td>
<td></td>
</tr>
<tr>
<td>5b. <strong>Social and cultural awareness</strong></td>
<td>Not specifically addressed in this course.</td>
<td></td>
</tr>
</tbody>
</table>
Course evaluation and quality enhancement

The School of Taxation & Business Law’s quality enhancement process involves regular review of its courses and study materials by content and educational specialists, combined with feedback from students. Towards the end of the semester, you will be asked to complete an online survey via myUNSW to evaluate the effectiveness of your course lecturer and the actual course content. These surveys are administered as part of the UNSW Course and Teaching Evaluation and Improvement process (‘CATEI’). Your input into this quality enhancement process through the completion of these surveys is extremely valuable in assisting us in meeting the needs of our students and in providing an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhance the quality or course content and delivery.

Student feedback in previous surveys suggests that some students are not entirely comfortable with the highly mathematical nature of Quantitative Analysis. While it is appreciated that a number of students struggle to adapt to the particular demands of the course, the reality is that the study of Quantitative Analysis is essentially mathematical in nature. To enhance your study experience and help you to develop the mathematical knowledge and skills required in this course, the Recommended References section of this Course Outline has been revised and updated. Please read that section carefully and put it in practice, if relevant.
Student responsibilities and conduct

Students are expected to be familiar with and to adhere to university policies in relation to attendance, and general conduct and behaviour, including maintaining a safe, respectful environment; and to understand their obligations in relation to workload, assessment and keeping informed.

You are expected to conduct yourself with consideration and respect for the needs of your fellow students and teaching staff. More information on student conduct is available at: https://my.unsw.edu.au/student/atoz/BehaviourOfStudents.html

Guide to online behaviour: https://student.unsw.edu.au/online-study

You should take note of all announcements made in lectures, tutorials or on the course Website, Moodle. From time to time, the University will send important announcements to your university e-mail address without providing you with a paper copy. You will be deemed to have received this information. It is also your responsibility to keep the University informed of all changes to your contact details.

Information and policies on these topics can be found in the ‘A-Z Student Guide: https://my.unsw.edu.au/student/atoz/A.html and in the Atax Student Guide. See, especially, information on ‘Attendance and Absence’, ‘Academic Misconduct’, ‘Assessment Information’, ‘Examinations’, ‘Student Responsibilities’, ‘Workload’ and policies such as ‘Occupational Health and Safety.'
How to use this package

If you are new to flexible learning you should carefully read this Course Outline. It contains most of the relevant information about how this course will be run and the expectations of you as a student. You should also refer to the Suggested Study Schedule at the end of this Course Outline. To get the most out of your study we recommend that you follow this schedule through the course and fit various time demands into a well-organised diary. Systematic study through the Semester is the key to success in a flexible learning program.

The Study Guide (which includes this Course Outline and the individual Modules and is sometimes referred to as the study materials or course materials) can help you in three ways.

1. It sets out a clear path of study over the Semester and helps you plan your workload. It also identifies learning outcomes and key concepts at the start of each module and provides a series of activities to help you learn actively and manage your own progress through the course.

2. It contains the core content for the course (often with reference to legislation, textbooks and other relevant material). The structure and layout of the Study Guide is designed to highlight key points and assist your revision for assignments, research papers and examinations.

3. It tells you when to refer to textbooks, legislation and other readings, giving precise details of what you should read.

Features of the Study Guide

Each module includes a range of features to assist you in managing your learning and developing study skills. These features include:

- Overview page
- Heading levels
- Learning outcomes and key concepts
- Module text
- Activities and feedback
- Readings
- Margin notes
- Instructional icons

Please familiarise yourself with the Key to Instructional Icons on the following page. These icons are intended to help you navigate the study materials and to encourage active learning.
Key to instructional icons

- compulsory reading
- optional reading
- note this important point
- recall earlier work
- discuss with colleague
- access Moodle or the internet
- use video resource
- use software
- write responses outside the Study Materials
- write response in the Study Materials
- pause to reflect
- prepare for discussion in an Audio Conference or Webinar
- discuss with study group
- undertake investigation or research
- use audio resource
- perform fieldwork

Only some of the media shown in the instructional icons are used in this course.
Profile of this course

Course description

Course number/s  TABL2058

Course name  Quantitative Analysis

Units of credit  6

Suggested study commitment  You should plan to spend an average of 10–12 hours per week on this course to perform well (including class attendance, online participation, assignments, examination preparation etc). The information included on the overview page of each module should help you plan your study time.

Semester and year  Semester 2, 2014

Lecturer/s  Binh Tran-Nam

Contact details
Telephone:  +61 (2) 9385 9561
Fax:  +61 (2) 9313 6658
Email:  b.tran-nam@unsw.edu.au
Textbooks and references

Prescribed textbook/s

You must purchase or have access to the following publication/s.


This is referred to throughout the Study Guide as ‘Textbook’.

Citation and style guide

In presenting written work for assessment in this course you must use an appropriate and consistent style for referencing and citation. The following is a selection of acceptable citation and style guides, which you may use as the basis for your written work. You must purchase or have access to one of the following publications.


(This is free to download and is the citation style guide used by the majority of Australian legal journals.)


Note that in disciplines other than law (ie, Accounting, Economics and Computing) the literature in these courses has, for the most part, been written in the Harvard style and in these courses you may prefer to use the Harvard style of referencing. Guides to using the Harvard style can be accessed at the following websites:

http://www.lc.unsw.edu.au/onlib/ref.html


In this course, it is acceptable to use either one of the prescribed legal styles, or the Harvard style. However, whatever style you adopt must be used consistently and correctly—you must not mix one style with another.
Recommended reference/s

Some of you may not yet possess the minimum mathematical prerequisite for *Quantitative Analysis*. This may be because you have not touched mathematics for some time. Or this may be the case because you have never been really comfortable with mathematical thinking and manipulations. In either case, you really need to work extra hard to gain good results for this course. To prepare for the course you may wish to start by reading a simple mathematical text (eg, a Year 10 two-unit maths text). Once you gain a better understanding of mathematical ideas and techniques, you could commence to read any of the following supplementary texts in order to strengthen your newly acquired skills and knowledge.


The Schaum’s Outline Series listed below are inexpensive, comprehensive in scope and contain many solved problems:


Supporting your learning

Conferencing

Conferences may be either in the form of an audio conference (conducted by telephone) or a webinar (ie, a web-based Conference conducted over the Internet). Instructions on preparing for and participating in audio conferences and webinars are available on the Taxation & Business Law website and in your course Moodle website.

These Conferences provide an opportunity for you to clarify and extend your understanding of the material in this course. They are designed to try out new ideas and give you a forum to ask questions and discuss issues with your lecturer and other students. Do not be afraid to participate—it is only by trying out new ideas and exploring their dimensions that you will learn in any real depth.

Thorough preparation is essential if you are to gain maximum benefit from a Conference. You can only start to come to grips with material if you work on it actively. As a general rule each Conference will cover the module/s between the previous Conference and the week it falls within on the Suggested Study Schedule. However, more specific information on material to be covered in each Conference may be provided via Moodle throughout the Semester (see ‘Online learning in this course’ below). Exact dates and times for Conferences will be advised via a timetable that you will find on Moodle and on the TBL Website (under Timetables).

There are five webinars for this course during the Semester. The Suggested Study Schedule in this Outline indicates in which weeks Conferences will be held. Each Conference is of approximately one and a half hours duration.

Remember Conferences are not lectures—your active participation is an important part of the learning experience and preparation for examinations!
School of Taxation & Business Law Website

The School of Taxation & Business Law’s website is at:

http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/Pages/default.aspx

In addition to general information for all of the School’s students and visitors, there is a portal under Student Resources which contains information specific to those students undertaking flexible learning courses—for example, information about exams, timetables and the Weekly Bulletin:

http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/studentresources/taxationprogramresources/Pages/default.aspx

Atax Student Guide

The Atax Student Guide is a vital source of information for students studying flexible learning courses. It provides administrative and other information specific to studying these courses and you should make a point of being familiar with its contents. You can access the 2014 Atax Student Guide from the Taxation & Business Law Website or from your Moodle course website.

Library and resources

There are several resources that you can access from the School of Taxation & Business Law website to help you with your academic and research goals. Online tax and legal resources can be found at:

http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/studentresources/Pages/usefullinks.aspx

From this site you can access:

- The UNSW Library’s catalogue, online databases and e-journals
- UNSW Library Online Training guides for library research skills
- The UNSW Learning Centre for online academic skills resources (eg, essay and assignment writing, plagiarism), and
- ‘Gateway’ links to legislation, case law, tax and accounting organisations and international tax agencies.

The main UNSW Library website provides access to the general UNSW Library resources as well as a guide to legal research and links to major legal websites. The Library website is located at:

http://info.library.unsw.edu.au
For more tax specific information, you should access the ‘Taxation’ subject guide at:

http://subjectguides.library.unsw.edu.au/taxation

Legal research tools can be accessed from the ‘Legal Research’ subject guide at:

http://subjectguides.library.unsw.edu.au/legalresearch

The ‘Accounting’, ‘Business’, ‘Economics’ and ‘Law’ subject guides can also be accessed at:

http://subjectguides.library.unsw.edu.au/index.php

UNSW Library staff will assist you with:
- locating journal articles, cases and legislation
- searching on-line databases and e-journals through Sirius
- loans of books
- photocopies of articles, cases etc which can be arranged free of charge.

You can contact Library staff via the Library website or by telephone on +61 (2) 9385 2650. Additionally, contact information for the Faculty Outreach Librarians can be found at:

http://www.library.unsw.edu.au/about/corporate/outreach.html

Online learning in this course

From 2014 UNSW will be using an online learning platform called ‘Moodle’. You should try to familiarise yourself with Moodle early in the semester. The Moodle course websites are where lecturers post messages and deliver documents to their class, where students can complete quizzes, submit assignments and participate in discussions, etc. This platform is an important link between you, your lecturer and your peers, and you should make a habit of regularly accessing your Moodle course website as part of your study regime.

All of the School’s flexible learning courses courses will have a Moodle course website, which is accessible only by students enrolled in that particular course. The contents of each site will vary, but at a minimum will provide you with information about the course, course content, assignment submission, email, relevant links to online resources and the opportunity to network with fellow students. In addition, Conferences will be recorded and made available via Moodle.
Moodle support

A complete library of how-to guides and video demonstrations on the Moodle learning management system is available via the UNSW Teaching Gateway at http://teaching.unsw.edu.au/clearing.

Moodle technical support

If you encounter a technical problem while using Moodle, please contact the UNSW IT Service Desk via the following channels:

Email: ITServiceCentre@unsw.edu.au
Telephone: +61 (2) 9385 1333

Phone and email support is available Monday to Friday 8am – 8pm, Saturday and Sunday 11am – 2pm.

Other support

Additional support for students is available from the UNSW Learning Centre, which provides a range of services to UNSW students. The Learning Centre website also features very helpful online resources which may assist you to refine and improve your study skills. You can access these resources and find out more about the services available at www.lc.unsw.edu.au.

As well as the Learning Centre, the faculty’s Education Development Unit (EDU) provides academic writing, study skills and maths support specifically for Business School students. Services include workshops, online and printed resources, and individual consultations. For further information, see:

http://www.asb.unsw.edu.au/learningandteaching/studentservices/Pages/default.aspx

The EDU contact details are as follows:

Phone: +61 (2) 9385 5584
Email: edu@unsw.edu.au

The ‘Academic Support’ section of the Atax Student Guide details further services available to assist you to achieve success in a flexible learning environment.

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the UNSW Equity and Diversity Unit (telephone: +61 (2) 9385 4734; email: seadu@unsw.edu.au). Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is
essential to enable any necessary adjustments to be made. For further information, you may also wish to look at the Student Equity and Disabilities Unit homepage at http://www.studentequity.unsw.edu.au/

Academic Honesty and Plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students and staff have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW.

The University regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism. For UNSW policies, penalties, and information to help you avoid plagiarism see: http://www.lc.unsw.edu.au/plagiarism/index.html as well as the guidelines in the online ELISE and ELISE Plus tutorials for all UNSW students: http://info.library.unsw.edu.au/skills/tutorials/InfoSkills/index.htm.

To see if you understand plagiarism, do this short quiz: http://www.lc.unsw.edu.au/plagiarism/plagquiz.html

For information legal citation go to: http://www.law.unimelb.edu.au/mulr/submissions/quick-aglc

The following discussion of plagiarism is adapted from the UNSW website at https://my.unsw.edu.au/student/atoz/Plagiarism.html.

Plagiarism is using the words or ideas of others and presenting them as your own. Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

Examples of plagiarism include:

- direct duplication of the thoughts or work of another, including by copying work, or knowingly permitting it to be copied—this includes copying materials, ideas or concepts from a book, article, report or other written document (whether published or unpublished), computer program or software, website, internet, other electronic resource, or another person’s assignment, or the student’s own assignment from a previous course, without appropriate acknowledgement
- quotation without the use of quotation marks
- paraphrasing another person’s work with very minor change keeping the meaning, form and/or progression of ideas of the original
- citing sources which have not been read, without acknowledging the ‘secondary’ source from which knowledge of them has been obtained
piecing together sections of the work of others into a new whole
presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people (eg, another student or tutor)
claiming credit for a proportion of work contributed to a group assessment item that is greater than that actually contributed
using another person’s ideas or words in an oral presentation without crediting the source.

Note also that submitting your own assessment item that has already been submitted for academic credit at UNSW or elsewhere may also be considered plagiarism.

The basic principles are that you should not attempt to pass off the work of another person as your own, and it should be possible for a reader to locate information and ideas you have used by going to the original source material. Acknowledgement should be sufficiently accurate to enable the source to be located quickly and easily.

The University has adopted an educative approach to plagiarism and has developed a range of resources to support students. If you are unsure whether, or how, to make acknowledgement, consult your lecturer or visit The Learning Centre at UNSW or at the following address:

http://www.lc.unsw.edu.au/

For more information, please refer to UNSW’s Plagiarism & Academic Integrity website at the following address:

http://www.lc.unsw.edu.au/plagiarism/index.html

Academic Misconduct carries penalties. If you are found guilty of academic misconduct, the penalties include warnings, remedial educative action, being failed in an assignment or being excluded from the University for a number of years. All students who are found guilty of academic misconduct will be placed on the UNSW Academic Misconduct register.
Assessment

All assignments must be submitted electronically through Moodle. Please refer to Appendix A for guidelines on assignment preparation and rules for electronic submission of assignments (as well as information on deadlines and penalties for late submission).

Assessment for Bachelor students undertaking this course will be on the basis of:

(a) Assignments 50%
(b) Final examination 50%

In order to pass this course, a student enrolled at Bachelor level must obtain:

- 50 per cent or more of the total marks available in the course and
- at least 40 per cent of the marks available for the final examination in the course.

Assignments

Assignment submission dates

There are 2 assignments:

Assignment 1
Due date: Monday, 8 September 2014
Weighting: 25%

Assignment 2
Due date: Monday, 13 October 2014 (AEDT*)
Weighting: 25%

*Australian Daylight Saving time

Assignment topics are included on the following pages.

You may be asked to submit your assignment through Turnitin, which will allow you to check your work for inadvertent plagiarism. You will do this via Moodle. Note that the version lodged at the due date will be taken as your final submission in the course.

For information on Turnitin functions and how to interpret originality reports please refer to the following online resource:

http://www.turnitin.com/static/training/student.php
Final examination

The final examination will be closed book, of 2 hours duration plus 10 minutes reading time, and will cover the whole Semester’s content. Note that you will not be permitted to write during the reading time.

Examinations are held from **Friday 7 November to Saturday 22 November 2014** for Semester 2, 2014. Students are expected to be available for exams for the whole of the exam period.

The final examination timetable is published prior to the examination period via the Atax Bulletin and on the School’s website at:  

http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/studentresources/taxationprogramresources/Pages/bulletin.aspx

**This is not a negotiable schedule.** Atax publishes it as a matter of courtesy, and to ensure that any clashes of Atax examinations are brought to our attention.
ASSIGNMENT 1: TABL2058

Due date: To be submitted via Moodle by Monday, 8 September 2014 (Midnight, AEST)

Weighting: 25%

Question 1

Weighting: 10 marks

A total sum of $2,500,000 was invested in two business ventures, X and Y. At the end of the first year, X and Y yielded returns of 5% and 7.5%, respectively, on the original investments.

Required:

How was the original amount allocated if the total amount earned was $162,500? (10 marks)

Question 2

Weighting: 20 marks

The market demand for and supply of a commodity can be summarised by the following equations:

\[ Q^D = 1,500 - 11.5P \]
\[ Q^S = -800 + 34.5P \]

where \( Q^D \), \( Q^S \) and \( P \) stand for quantity demanded, quantity supplied and price, respectively.

Required:

(a) Derive the market equilibrium and illustrate it graphically. (10 marks)

(b) Derive the market equilibrium in the presence of a unit tax of $20 and illustrate the after-tax market equilibrium graphically. (10 marks)
Question 3  
Weighting: 20 marks

A real estate firm manages a block of 70 flats. At $500 per week every flat can be rented. However, for each $20 per week increase there will be two vacancies with no possibility of filling them.

Required:
(a) Let $n$ be the number of $20 increase above $250 per week. Express the total weekly rent as a function of $n$. 
(b) Suppose the firm wishes to receive $35,840 per week from rent. What rent should be charged for each flat? 

Question 4  
Weighting: 25 marks

On 30 June 2014, Kylie purchased a house by taking out a 25-year mortgage of $600,000 at 5% interest per annum, compounded monthly. Repayments are made at the end of each month.

Required:
(a) Calculate Kylie’s monthly repayment assuming there are no other transaction costs. 
(b) Calculate the unpaid balance on the loan on 1 July 2024. 
(c) Suppose that the interest rate rises to 7% per annum, compounded monthly, from 1 July 2024. Calculate Kylie’s new monthly repayment assuming that the life of her loan remains unchanged.
Question 5
Weighting: 25 marks
As a result of the introduction of the GST, certain businesses will have to incur additional costs in complying with the requirements of the GST over and above the tax itself. Suppose you want to estimate the aggregate recurrent GST compliance costs.

Required:
(a) What is the population of your study? (5 marks)
(b) Describe the types of data required and whether or not they are available from existing sources. (10 marks)
(c) Explain a method by which you can use to collect primary data for your study. What are the advantages and disadvantages of the method that you have chosen? (10 marks)

Evaluation criteria
The following criteria will be used to grade assignments:
• demonstration of an ability to formulate the issue in terms of familiar concepts
• application of the right tools to solve the formulated problem
• logical reasoning and deductions
• accurate numerical answers
• use of graphs, where appropriate, to support your argument
• sentences in clear and, where possible, plain English—this includes correct grammar, spelling and punctuation
• correct referencing and bibliographic style in accordance with a recognised and appropriate citation and style guide (when uploading, check your footnotes have been correctly submitted).
ASSIGNMENT 2: TABL2058

Due date: To be submitted via Moodle by Monday 13 October 2014 (Midnight, AEDT*)
Weighting: 25%
* Australian Daylight Saving Time

Question 1
Weighting: 60 marks
For this question, you will have to collect a sample of data on daily prices of three petrol stations (of your choice) over a two-week period. The total sample size should therefore be 42 (3 stations × 14 observations per station).

Required calculations and analysis:
(a) Enter you data into an Excel spreadsheet by station (column) and observation (row). Label your worksheet clearly. (10 marks)
(b) Calculate the mean, mode and median of the ungrouped data for each station separately and for the combined sample. Present the results of your calculation. (10 marks)
(c) For the combined sample, prepare a frequency distribution table and plot its frequency histogram. Explain your choice of number of classes and class intervals. (10 marks)
(d) Calculate the mean, mode and median of the grouped data derived from the frequency distribution above. Compare your results obtained from (b) and (d). (10 marks)
(e) Prepare a brief report of your results. Explain your data collection method, including evidence of your data sources, difficulties encountered (if any) and how you overcame them. Discuss any patterns or movements of petrol prices that may emerge from your study. (20 marks)

You should submit:
• data and calculations using Excel (for parts (a)–(d), and
• your written report (for part (e)) in Word.
Question 2

Weighting: 20 marks

Required:

(a) Let $E$ be an event for which $P(E) > 0$. Show that if $A$ and $B$ are mutually exclusive events, then

$$P(A \cup B \mid E) = P(A \mid E) + P(B \mid E)$$

(b) In a certain tax firm, 8% of the male clients and 2% of the female clients pay more than $50,000 on annual income tax. Now if a randomly selected individual client pays more than $50,000 on annual income tax, what is the probability that this person is a female given that 60% of all the clients are male?

Question 3

Weighting: 20 marks

A polling organisation plans to conduct a public opinion survey to determine the proportion of taxpayers who support the Australia Federal Government’s carbon tax.

Required:

(a) Assuming that the public is evenly divided on the proposal, how large should the sample size be to ensure that the error tolerance is 1% with 99% level of confidence? What is the required sample size if the error tolerance increases to 5%?

(b) Suppose that the polling organisation decided to draw a random sample of size 1,200. Of these 1,200 individuals, 740 indicated they do not want the carbon tax. Is there adequate evidence to conclude that the majority of Australian people do not support the carbon tax?
Evaluation criteria

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- application of the right tools to solve the formulated problem
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- accurate numerical answers
- use of graphs, where appropriate, to support your argument
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## Suggested study schedule

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