

# MID-2018 UNIT GUIDE

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Monash Actuarial Students Society



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## ABOUT MASS

The Monash Actuarial Students Society is the official representative student body for all students undertaking an Actuarial Studies major or specialist degree at Monash University. Established in May 2010, the Society has grown from a place to meet like-minded students into a complete extra-curricular resource.

The Monash Actuarial Student Society first and foremost acts as a facilitator for both peer support and professional networking for each of our members. We provide our members with a valued source of information regarding academic guidance, accreditation, the actuarial profession and career opportunities, as well as a cohesive membership community built around our social and corporate events.

Our two main goals are:

- (1) Connecting our members with professional actuaries
- (2) Enhancing our members' employable skills set

These goals are achieved through the variety of professionally run networking events aimed at increasing our members' exposure to the industry and our employment enhancing workshops that focus on the development of "soft skills". Furthermore, we provide our members with the latest job and internship prospects directly from our sponsor firms and deliver opportunities to showcase their skills through case competitions as well as mock interviews.

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# INTRODUCTION

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Here you are, a budding actuary accepted into a university course that will propel you on your way, so... what now? For the most of us, 'What is actuarial studies?' more than likely found its way into a google search and the results have been less than informative. No doubt, they contained phrases such as: 'Actuaries are highly analytical'; 'Actuarial Studies' majors need to be good at maths'; or 'Actuarial studies deals with risk'. While generally accurate, these statements will in no way provide you with information that will assist you throughout your academic career.

Becoming an actuary is not an easy feat. You will face late nights, simultaneous deadlines and sit exams that cannot be finished in the allocated time. The Monash Actuarial Students Society recognises these difficulties you are about to undertake and in the spirit of greater transparency has compiled this publication. Our hope is that all students undertaking actuarial studies will walk away with a greater understanding of course content and be able to utilise the advice provided by their peers.

The Monash Actuarial Students Society Unit Guide is a combination of views written by a diverse population of your peers. Each reviewer has previously sat the course and is offering their individual insight into the subject. The mid-2018 edition covers 31 courses found in both undergraduate degrees: Commerce and Commerce Specialist/Actuarial Sciences, and the Master's degree: Actuarial Studies. Units included cover the commerce core units, actuarial exemption units, and the units required to progress into an Honours year.

Over time course content changes and we would ask you to keep this in mind as unit reviews may not wholly reflect your experience. To counter this the Society will be continually reviewing units and superseding reviews where updated curriculum demands it. Further, we also ask that while reading through this document you consider that each review reflects an individual's expression of opinion and may differ between students.

If you would like to contribute to the next edition of this guide, please send an expression of interest to [actuarial@monashclubs.org](mailto:actuarial@monashclubs.org).

# ACKNOWLEDGEMENT

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The Monash Actuarial Students Society would like to express our appreciation to the following members who contributed their time and insight to the mid-2018 edition of the Monash Actuarial Students Society Unit Guide:

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# DISCLAIMER

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All opinions are those of the individual contributors and may not reflect those of the Monash Actuarial Students Society or Monash University. These reviews are expressions of opinions and experiences which may not be the same for everyone. The Monash Actuarial Students Society makes every effort to ensure the validity and reliability of information however the Society does not guarantee the accuracy or completeness of the information provided. Note that these experiences are based on 2017 content thus changes to the unit may be made. The Monash Actuarial Students Society and Monash University do not assume any legal responsibility for decisions made or actions taken as a result of information available in this guide.

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**1 000**

**Level Units**

# ACC1100

## Introduction to Financial Accounting

**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2018

**Prerequisite:** None

**Exemption:** CT2 Finance and Financial Reporting

This unit contributes 40% to CT2, and is paired with BFC2140 (Corporate Finance 1) which contributes 60%. A weighted average of at least a Distinction (70%) is required to be eligible for the exemption, where each of the units must be individually at least a Credit (60%).

**Subject Content:**

The unit introduces basic accounting concepts in line with current Australian accounting regulations and standards. The first half of the unit (approximately Weeks 1-6) covers topics mostly taught at the high school level of accounting (VCE); this includes the accounting process from journalising transactions to the preparation of accounting documents. The second half of the unit builds on these skills and introduces new accounting concepts such as accounting for certain assets, liabilities and equity items.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures in each stream  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

**Compulsory:** Financial Accounting: Reporting, Analysis and Decision Making; Carlon, McAlpine-Miladenovic, Palm, Mitrione, Kirk, Wong; 5th edition.

**Required for weekly textbook questions.**

**Assessments:**

Two In-Semester Tests:	10% each
Group Presentations:	10%
Tutorial Participation:	10%
Individual Assignment:	10%
Final Exam:	50%

# ACC1100

## Comments

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### General Overview:

This unit was deceptive, starting slowly before accelerating quite quickly. Furthermore, if you have completed VCE accounting it is just revision of the content learned here in the first few weeks, creating complacency early in the semester. This meant that you can easily fall behind once the new, and challenging, content is taught if you do not keep on top of things. Overall, it is easy to succeed in the unit.

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### Lectures:

Lectures are short (1 hour) meaning they are quick and engaging. The lecturer is good, providing jokes to lighten the mood and keep us interested. It is important to watch the lectures as the notes provided are not completed, which the lectures fill the gaps.

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### Tutorials:

Tutorials began in the first week. Tutorials should be attended as they provide 30% of your overall mark. In the tutorials, the following contributes to your marks: attendance, submission of weekly questions and group presentations. Not only this, the tutorials run through the weekly assigned questions (which are past exam questions), meaning they provide highly useful information and revision throughout the semester.

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### Assessments:

#### In-Semester Tests:

The semester tests can be challenging, however, with practice of the 'additional problems' given out, a high mark can be achieved. During the tests, time can be an issue, meaning a fast pace is required to ensure you do not run out of time.

#### Individual Assignment:

The assignment assesses students' knowledge of the accounting cycle, by reviewing the balance day adjustments. Specifically, students journalise transactions and prepare financial statements. The assignment was easily done by first creating simple T-Ledger accounts and transferring the data to an Excel sheet provided.

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**Final Exam:**

The final exam covers 6-7 main topics, as the other few topics covered in the semester are integrated into these larger topics or are explicitly stated to not be on the exam. This makes the exam fairly predictable and the previous years' exams given are extremely helpful as they have similar questions, with different scenarios. As a result, a good mark is attainable.

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**Textbook:**

The prescribed textbook is a good supplement to the lecture slides if certain concepts or aspects are not clear.

Financial Reporting Handbook 2016 can be taken into the exam and can be used to look up accounting standards. If the implications of the few standards examined are understood, then this text is not necessary, even for the exam.

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**Concluding Remarks:**

It is important to stay on top of the content in this unit as it can easily become overwhelming. Regardless of prior accounting knowledge in VCE, being up to date is highly recommended and will allow you to achieve high results in this unit.

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# BFC1001

## Foundations of Finance

**Difficulty:** ■■■□□

**Year Completed:** Semester 2, 2017  
NOTE: not applicable to students who began their studies in 2018.

**Prerequisite:** None

**Exemption:** CT2 Finance and Financial Reporting

This unit contributes 20% to CT2, where ACC1100 (Introduction to Financial Accounting) and BFC2140 (Corporate Finance 1) make up 30% and 50% respectively. A weighted average of at least a Distinction (70%) is required to be eligible for the exemption, where each of the units must be individually at least a Credit (60%).

**Subject Content:**

Foundations of Finance covered financial markets, regulation, financial institutions, debt securities, risk management, and briefly touched on globalisation. The weekly pre-load (lecture) was a very intense and informative 1-hour session. It incorporated an interactive online quiz which helped students consolidate their understanding of the content. The 2-hour workshop involved a 1-hour review and in-depth analysis of the current topic, followed by one hour of applied problem-based learning. The workshop also included an interactive online quiz.

**Lecture(s) and Tutorial(s):**

One 1-hour lecture  
One 2-hour workshop

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Arthur J. Keown, John D. Martin (2016), Foundations of Finance, Pearson Australia. This was an informative textbook which included many great review questions and in-depth discussions of major points covered throughout the semester.

**Assessments:**

Team Assignments:	20% (split into 5% and 15%)
Out-of-Class Learning Tasks:	6%
In-Class Learning Tasks (LC):	6%
Mid-Semester Test:	18%
2-hour exam, 10 minutes reading time:	50%

# BFC1001

## Comments

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### General Overview:

Overall, this unit was phenomenal. It was extremely interesting and practical with knowledge that can be applied in real life scenarios. The structure of the flipped-learning style of teaching was very useful as it allowed students to do their own private study and utilise workshops to revise content, ask difficult questions and solve exam-like problems together.

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### Lectures:

The pre-loads (lectures) were engaging as students were required to complete interactive quizzes during the lectures which contributed to their final grade. Thus, students were always attentive. Moreover, the use of real-life examples made the content interesting and relatable. The lectures were definitely important, however, with enough reading and with the internet, a high-level student would be able to manage the subject without attending the pre-loads. In case a student was unable to attend a lecture, they were recorded with full audio and video of the presentation screen. Although the content could be covered without the pre-loads, the interactive quizzes made attendance essential. The obvious benefit from attending the pre-load is that students can ask questions.

Lecture slides were uploaded weekly on Moodle after all pre-loads took place.

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### Tutorials:

Workshops began in the first week and ran every week until the end of the semester. The Workshop was 2 hours long and was split into two segments: the first hour dedicated to revising content learned in students' self-study requirements, and the other hour dedicated to problem solving questions aimed at applying the knowledge students have learned. Like the pre-loads, there were interactive quizzes during the workshops. Therefore, attendance was crucial. Preparation for these workshops involved reading the textbook and other resources provided by the faculty and completing a short weekly quiz.

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**Assessments/Other Assessments**Team Business Presentation:

Students split up into groups of 3-4 and were assigned a question regarding a finance concept that was covered in previous weeks. It was then up to the students to formally present the findings of their research in an attempt to answer the given question.

Team Assignment (RBA Official Cash Rate Prediction):

The same group of students as the presentation were forced to research factors that might affect the Reserve Bank of Australia's decision to alter the cash rate. This must be written in a formal essay-format with proper citations.

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**Exams**Mid-Semester Test:

This was worth 18% of the final unit mark and was structured like the final exam (2-hour long with 10 minutes reading time). The test had both multiple-choice and short answer sections, covering topics 1-7.

Final Exam:

This was worth 50% of the final unit mark with the same structure as the mid-semester test. The exam covered all topics in the unit. Only a small number of practice exams were provided. Although more practice exams would have been preferable, the practice exams given were sufficient. The calculator provided by the faculty was allowed in the exam and a formula sheet was provided. No other materials were permitted in the exam or mid-semester test.

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**Concluding Remarks**

As long as students complete all the readings, attempt all the questions, and utilise consultations when they are needed, the unit is very fair and straightforward.

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# BTC1110

## Commercial Law (Business Law)

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**Difficulty:** ■■■□□

**Exemption:** None.

**Year Completed:** Semester 1, 2018

**Prerequisite:** None

**Exemption:** None

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**Subject Content:**

The unit is divided into two halves; Contract Law and Statute Laws. The following topics were covered during the semester: The Australian Legal System (Week 1), The Law of Contract (Weeks 2 – 5), Consumer Protection (Weeks 6 – 7), The Law of Torts (Week 8 – 9) and Law of Business Organisation (Weeks 10 – 11).

**Lecture(s) and Tutorial(s):**

One 1.5-hour lecture  
One 1.5 hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Concise Australian Commercial Law (4th ed)  
Provide feedback on text: This textbook is your lifeline. All the cases, tutorial questions and content are in this textbook.

**Assessments:**

In-Class Multiple Choice Quiz:	10%
Mid-Semester Test:	30%
Final Exam (Open Book):	60%

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# BTC1110

## Comments

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### General Overview:

Out of all the first-year core units in commerce, this is definitely the least crammable unit.

Many actuarial students have found this unit the hardest but it's just different from other typical actuarial units. There's a lot of reading – students read about 40–50 pages of the textbook each week (by the end of the unit, you would've read roughly 90% of the book).

The amount of cases to cover feels like it is never ending but when you are done; the joy is immeasurable. Although this seems intimidating, this unit is the most useful and interesting unit I've had.

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### Lectures:

The lectures are great if you struggle with readings because the lecturer provides good context and memorable examples.

However, the lecturer does expect you to pre-read before the lecture, so you can't assume that you'll be learning all of the content.

If you're not really an audio-learner like me, it's okay to not attend the lectures as the textbook covers all the topic in detail.

Use the lecture slides as a guide to know which sections of the textbook to read and which cases to make summaries for.

In my opinion, the only unmissable lecture is the revision lecture in SWOTVAC where the lecturer discusses the answers to sample questions.

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### Tutorials:

The tutorials were not compulsory but honestly, I learnt the most in these tutorials. The tutorials are discussion based – students discuss the tutorial questions in groups and then present to the class. For any other unit, I think this system would fail but it was done amazingly well in this unit. I actually looked forward to going to the tutorials for this unit.

You don't have to prepare for the tutorials, but it helps to know what is going on so that you can contribute to class.

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### Assessments/Other Assessments

There were only two in-semester assessments.

The in-class multiple choice test was not open book and it covered content in weeks 1–2 (the assessment was in week 3).

The test was only assessing students' knowledge of the Australian legal system and the cases covered so far. It was a relatively easy assessment.

The mid-semester was scheduled after covering Contract Law (around week 7). It is open book. There are two sections to the test: MCQ and two short answers (more like long answers). The MCQ is slightly harder than the first one but it's open book, so it isn't too bad. The short answer section is sort of a preview to what the final exam will be like.

Overall, the in-semester assessments aren't too bad.

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### Exams

This is an open book exam – this means you can bring anything you want. You can bring the textbook, your own notes, case summaries or even lecture slides.

With the shift to two-hour exams, the final exam only focuses on the statutory law section of the exam (anything but contract law). The topics were evenly covered with three questions – one topic per question.

Be prepared to write as fast as possible from the beginning.

Students have 30 minutes reading and noting time – this is the time for you to plan out what the key topics are and what cases will be suitable for these questions.

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### Concluding Remarks

If you've completed all your notes and case summaries before SWOTVAC, you're all set. Don't make the mistake of leaving everything until the last minute. It will be extremely painful, and you will feel like there is no end to this unit.

Final Tip: Definitely have a study buddy for this unit because this unit is discussion based. You'll learn the fastest through discussions.

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# ECC1000

## Principles of Microeconomics

**Difficulty:** ■■■■■

**Year Completed:** Semester 1, 2018

**Prerequisite:** None

**Exemption:** CT7 Business Economics

This unit is worth 55% of the CT7 exemption and is paired with ECC1100 – Principles of Macroeconomics which contributes 45%. You will need a weighted average of 70% between the two units and not less than 60% in either.

**Subject Content:**

ECC1000 is both an introductory and compulsory core unit and is usually completed in the first year of studies (no prior knowledge of economics is required). The unit gives a general overview into the foundations of economics. It covers the following topics: Basic economic concepts, perfectly competitive markets (and government policy), market failure and market power (different markets structures).

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Principles of Microeconomics, J. Gans, S. King, M. Byford and N. G. Mankiw, 7th Asia-Pacific edition.  
OR  
Principles of Microeconomics, 6th edition by J. Gans, S. King, M. Byford and N. G. Mankiw.  
(Textbook is required to answer weekly tutorial questions)

**Assessments:**

Tutorial Participation:	10%
APLIA Weekly Quizzes:	10%
1-Hour Mid-Semester Test:	20%
2-Hour Final Exam:	60%

# ECC1000

## Comments

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### General Overview:

Overall, the unit served as a good introduction into economics. The unit can be content heavy and contains several concepts that may be confusing and hard to grasp. However, reviewing the content again reduces these issues. Nevertheless, it is a relatively straightforward unit and prior economics knowledge, while helpful, is not a necessity.

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### Lectures

The lectures can, at times, feel like a stretch. In saying this, the lectures are very important as it condenses the content very quickly and provides the foundation for the next week's lectures. It is important to keep up to date with lectures – the nature of this unit is that the following weeks content relies heavily upon the previous weeks'.

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### Tutorials:

Tutorials began in the second week. Tutorial attendance forms part of the overall mark, making it important to attend. Additionally, tutorials are extremely helpful to clear up any issues regarding the content. It is important to complete the tutorial questions as this forms part of your tutorial marks and aids in the consolidation of the content.

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### Assessments:

#### Tutorial Participation:

An individual must attend and hand in solutions for the textbook questions to gain this mark.

#### APLIA Quizzes:

Every week there are sets of online questions (through APLIA) that must be answered to attain these marks. Typically, each set of questions is worth 1%. Moreover, It is helpful to complete the practice questions provided in the previous week as the assessed questions are very similar. Do not leave these quizzes until the last minute as it is very easy to forget about them and lose out on easy marks.

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**Exams:****Mid-Semester Test:**

This is a set of 20 multiple choice questions each worth 1% of students' overall mark. The textbook contains quite a few practice multiple choice questions as revision. It is easy to do well in this and get many easy marks. Topics from weeks 1-5 are covered in this test.

**Final Exam:**

This contains all the topics in the unit. The exam consists of multiple choice (2 marks each) and short answer questions. The exam was very difficult – the layout of the exam was unknown, and the actual questions were significantly more difficult than the practice questions provided. The weekly online quizzes formed a good practice for consolidating knowledge in preparation for the exam.

I had prepared for the exam by reviewing the practice exams and the in-class homework, specifically the extra questions as they were prepared by the lecturer. As the final exam was a hurdle, it was very important to thoroughly review all the past questions.

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**Concluding Remarks:**

As long as you attend/watch all lectures, and complete all the assigned readings and tutorial questions, you will be more than fine. For those students that want to get ahead, use other online resources to expand your knowledge.

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# ECC1100

## Principles of Macroeconomics

**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2018

**Prerequisite:** None but ECC1000 is recommended

**Exemption:** CT7 Business Economics

This unit makes up 45% of CT7. The other 55% comes from ECC1000. An average mark of 70% must be obtained to receive the exemption, with neither unit's mark below 60%.

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**Subject Content:**

This unit builds upon the concepts covered in microeconomics and is fairly straightforward and serves as an introduction to macroeconomics. It covers macroeconomic concepts such as Gross Domestic Product, money supply, monetary and fiscal policies, unemployment and international trade. The unit is broken up into two sections, short-run and long-run macroeconomics. In contrast to microeconomics, this subject does not rely heavily on graphs but rather uses such diagrams to complement explanations.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Principles of Macroeconomics (4<sup>th</sup> Edition)

Textbook was very useful as the lecture based all of the lecture slides on its contents. The textbook has thorough explanations of theory supported by excellent diagrams. Still, it is possible to perform very well in this unit without the use of the textbook.

**Assessments:**

Group Country Analysis:	8%
Individual Country Analysis:	8%
15-Minute Tutorial Tests:	24% (3 x 8%)
2-Hour Final Exam:	60%

# ECC1100

## Comments

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### General Overview:

ECC1100 is a reasonably easy unit as it is based around the basic principles of macroeconomics. If all work is completed and regular study occurs, there are no obstacles to performing well. The content taught is very applicable to current news which makes lectures and tutorials engaging.

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### Lectures

The lectures were very well delivered. There was distinct clarity from the lecturer. The lecture slides served as great learning tools and were extremely useful – helping students directly succeed in their assessments. Lectures were mainly theory based, but many practical examples were provided. Although the lectures were 2-hours long, they were enjoyable and easy to get through as the lecturer was very engaging and provided a break halfway through. Lectures were all fully recorded. Lecture slides were uploaded every week on Moodle, however, they did not include all the diagrams or examples provided in the lectures.

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### Tutorials:

Tutorials began in the second week of semester and ran for an hour. They were quite unengaging - most tutorials began with a question which was then thoroughly discussed by the students. The main purpose of the tutorials was to complete the tutorial tests worth 24% of the final unit grade.

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### Assessments:

The group assignment consisted of analysing the basic macroeconomic situation of an assigned country and providing monetary policies to fix some of the problems faced by these countries. This was done in groups of 4-5 students. Delivered as PowerPoint slides. Full marks were easily attainable.

The Individual assignment expanded on the group analysis. Students were required to provide a fiscal policy to combat the country's macroeconomic issues. The individual assignment required critical thinking and analysis with the use of diagrams and statistics but was fairly straightforward.

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The tutorial tests were worth 8% each – students had 15 minutes to complete an extended response to one of three questions available (these are made available to students at the beginning of the semester). The key is to define every key word and use diagrams and explanations provided in lectures. Consultations are very useful as the tutors and lecturers do not hesitate to provide feedback on a prepared answer to any of the questions.

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**Exams:**

The exam consisted of short answer questions with a similar format to the tutorial test questions. The exam is very straightforward and easy to perform well in if studied adequately. Past exams were provided as practice. Formula sheets were not allowed in the exam.

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**Concluding Remarks:**

This unit was extremely engaging genuinely rewarding for those who put in the required effort. Keeping on top of the content is fairly easy if done consistently. Write up mock answers to all the possible test questions and memorise them before-hand. Utilise consultations!

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# ETC1000

## Business and Economic Statistics

**Difficulty:** ■■■■■

**Year Completed:** Semester 1, 2018

**Prerequisite:** None

**Exemption:** CT3 Probability and Mathematical Statistics

This unit is worth 25% of the CT3 exemption and paired with ETC2520 Probability and Statistical Inference for Economics and Business. A weighted average of 70% between the two units and not less than a 60% in either.

**Subject Content:**

As an introductory analytics unit the subject material covers a broad range of topics with a different amount of depth from topic to topic. Content covered includes tables, charts, standardisation techniques, analysis of variables of simple and multiple linear regression, categorical variables, hypothesis testing and time series data. The course is taught within online videos and backed by lectures.

**Lecture(s) and Tutorial(s):**

One 1.5-hour lecture (only certain weeks)  
One 1.5-hour computer lab

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Essentials of Business Analytics, J. Camm, J. Cochran, M. Fry, J. Ohlmann, D. Anderson, D. Sweeney & T. Williams.

The textbook was not useful as lecture and lab materials were sufficient.

**Assessments:**

Weekly Computer Labs:	24.5% (7 x 3.75%)
Group Assignment:	15.5%
2-Hour Final Exam:	60%

# ETC1000

## Comments

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### General Overview:

The unit is taught extremely well, and the lecture content relates well to the questions in the lab classes. There is a logical flow to the course with a lot of topics overlapping and relating to each other. However, the content can be dry at times.

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### Lectures

Although the lecturer is very engaging, the lectures themselves were not very useful to attend; the computer labs provided enough examples to learn the concepts. Only the revision lectures were worthwhile as Brett went through past exams and showed how to answer exam-specific questions.

The online videos on the other hand, were very beneficial as Brett went through all the theory covered in the unit.

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### Tutorials:

The computer labs, which begun in the second week of the semester, were compulsory as attendance was taken. There was weekly homework provided which was useful for the quizzes completed in each computer lab.

The computer labs are open book to facilitate discussion but doing the homework helps prepare for the final exam as well as the weekly lab quiz.

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### Assessments:

#### Group Assignment:

The groups had to be chosen from the students in your computer lab. A presentation had to be prepared and presented in front of the respective computer lab classes. The assignment tested all the data analysis skills learnt in the course.

As the 3 assessors marking the assignments were given the same criteria, the marking was fair and consistent. However, the criteria were quite vague in some areas. Furthermore, no special software is required besides PowerPoint and Excel.

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**Exams:**

The final exam is very formulaic. During the semester, the computer labs and online videos teach a technique to answer each question, which if followed, ensures the passing of the unit. Many practice exams are provided but not all are relevant to the course, so it is necessary to confirm with the tutors before completing them. While all topics are covered equally, the style of questions on the exams was not seen during the lab classes and some questions seemed a bit irrelevant to the course.

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**Concluding Remarks:**

Go to all the lectures, watch all the videos and do all the work. If you follow this advice you will find the units content will not be difficult.

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# MGC1010

## Introduction to Management

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**Difficulty:** ■■■ □□

**Year Completed:** Semester 2, 2017

**Prerequisite:** None

**Exemption:** None (Commerce Core)

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**Subject Content:**

This unit serves as an introduction to management. It involves looking at what management is and how it is applied effectively. Tutorials ran on a weekly basis for an hour-and-a-half.

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**Lecture(s) and Tutorial(s):**

One 1.5-hour lecture  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None

**Assessments:**

Annotated Bibliography:	10%
Argumentative Essay:	25%
Tutorials and Reading	15%
Reflection:	
2-Hour Final Exam:	50%

# MGC1010

## Comments

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### General Overview:

This unit is a Commerce Core subject. While the content is not overly challenging, this is a qualitative class, so those who have difficulty explaining answers over solving equations may need to put in some extra work. MGC1010 can be completed with relatively little effort.

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### Lectures:

The lectures were generally poorly delivered. Lectures are delivered directly from the slides. Occasionally, topics were expanded upon with examples not included in the notes. Therefore, the lecture slides did not serve as great learning tools. Still, lectures were all fully recorded in case students did to attend. Attending the lectures had no distinct benefit, students who keep up with readings and regularly review lecture materials will not suffer from missing out. Lecture slides were uploaded weekly on Moodle.

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### Tutorials:

Tutorials began in the first week and ran for an hour-and-a-half. They involved no theory or practical application of the content and were thus useless for the most part.

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### Assessments/Other Assessments

#### Annotated Bibliography:

The annotated bibliography was easy and involved collecting articles and analysing them using APA referencing.

#### Argumentative Essay:

The essay was an interesting assignment involving extensive research and reading. It was approximately two-thousand words.

#### Reflections:

Tutorial reflections was an easy assignment and should be completed during the tutorials as there is very little other to do in them.

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**Exams**

Topics were evenly covered, and the exam included only theory applications knowledge. Past exams were provided as practice. Formula sheets were not allowed in the final exam. It was relatively easy.

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**Concluding Remarks**

This unit was not at all interesting or engaging. It was extremely easy and involved a very limited investment of time.

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# MKC1200

## Principles of Marketing

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**Difficulty:** ■ ■ □ □ □

**Year Completed:** Semester 2, 2017

**Prerequisite:** None

**Exemption:** None

### **Subject Content:**

The following topics were covered during the course: Introduction to the Unit & Overview of Marketing (Week 1), The Marketing Environment (Week 2), Marketing Research and Information Systems (Week 3), Buyer Behaviour (Week 4), Segmentation, Targeting & Positioning (Week 5), Products vs. Services and Branding (Week 6), Product Decisions (Week 7), Pricing Decisions (Week 8), Distribution Decisions (Week 9), Promotion Decisions (Week 10), Marketing Strategy and Planning (Week 11).

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### **Lecture(s) and Tutorial(s):**

One 1.5-hour tutorial  
Online video covering all topics from week 1-11 as a substitute for lectures

### **Lecture Recording:**

None

### **Textbook(s):**

Marketing Principles (2nd edition) by Pride et al.  
I bought the prescribed textbook second-hand, however I found it only useful for the online quizzes and extra revision. Despite this, for the essay it is compulsory to use 2 textbooks so it's always good to buy the prescribed textbook to refer to for your essay.

### **Assessments:**

Tutorial Group Assessments:	15%
Essay:	15%
Video Project:	10%
Online Quizzes:	10%
Final Exam:	50%

# MKC1200

## Comments

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### General Overview:

This unit was a great way for me to get an understanding about the basics of marketing and how they can be used in practical situations. Basically, the course covers the 4Ps of marketing (product, price, place, promotion) briefly, before delving into them in more detail as well as topics such as marketing research and buyer behaviour. Although this is a content-driven subject, I found it to be an interesting subject to understand marketing concepts, and a relatively straightforward subject to get my head around.

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### Tutorials:

Tutorials started in week 1 and were the only class offered as part of the MKC1200 program. Week 1 was an introduction to the unit, then from week 2 onwards the tutorials begin with a 15-min quiz to be completed in pre-assigned groups. Therefore, it is compulsory to attend these tutorials. Afterwards, the tutor would go over the previous week's content to rehash all the information learnt through the online videos. This was a great way for me to capture the knowledge learnt through the online videos into a memorised format.

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### Assessments/Other Assessments

#### Online Quizzes:

Every Monday at 8am a quiz would open on Moodle for students to complete by the following Sunday at 11pm. These were based off the following week's content and consisted of 5 multiple choice questions. There were 10 graded quizzes, each one worth 1% (total of 10% allocated to online quizzes). I found these quizzes reasonably straightforward. I was able to comfortably complete each quiz in the required 15-minute timeframe. Most of the answers tended to come out of the prescribed textbook in the chapter for each week, so using that for your quizzes should benefit you substantially.

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#### Tutorial based assessment:

From week 2's tutorial onwards, at the beginning of each tutorial, students took part in a quiz by scratching out answers on a card. This consisted of 10 questions with each question having 4 possible answers. I found these a bit tedious at first, however my group and I were able to effectively plan these questions to receive very high marks overall. Only the top 9/10 quizzes (each worth 1.67% for a total of 15% of the final unit mark) are counted towards your final mark, therefore there is some leeway in case students miss the tutorial.

#### Video project:

In week 1, once students are allocated into groups, they are able to pick a particular current marketing situation to analyse and present in a 2-minute video based off week 2's content. This was a relatively straightforward assignment, which could easily be done if all team members collaborate and work together efficiently. For guidance, searching MKC1200 in YouTube should provide students with an understanding of what is required by the video.

#### Essay:

Just after your group submits the video project, essay topics are posted on Moodle. Two topics were provided, based off the marketing strategy of Segmentation, Targeting and Positioning (STP). Students were expected to write a 1500-word essay, highlighting how the chosen company and product aligns with the aforementioned marketing strategy. I found the instructions on how to properly approach and construct the essay to be very ambiguous and unsatisfactory, leading to a lower mark than I expected. Nevertheless, if you take advantage of tutor consultation hours and library appointments to improve your essay, it is definitely possible to do well in the subject.

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**Exam**

The 2-hour, closed book final exam was split into two sections and consisted of 8 separate questions. Section A consisted of 3 compulsory questions, whilst Section B consisted of 5 questions of which students only had to answer 4. Overall, I found this to be a fair exam. With an incredibly vast load of content and only one sample exam provided for the unit, I was unsure of what was going to appear on the exam. However, I was comfortably able to finish the exam, despite going into a third script book due to the depth of answers required. Regardless, I would say that the exam was reflective of the course itself. With lots of memorising and cramming, students should be fine in the exam.

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**Concluding Remarks**

Although this unit can seem a bit boring and repetitive at times, I would still recommend everyone to do it in their first year to get an idea of what the marketing program is about. It was a great way to introduce marketing concepts and essay writing skills, which I hope to further in my future studies. Moreover, it is not a very difficult subject. Still, it requires a fair deal of memorisation and rote-learning, so bear that in mind if you are looking to take it as an easy subject.

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# **2000**

# **Level Units**

# BFC2140

## Corporate Finance 1

**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2018

**Prerequisite:**

ECF110 and ETF1100; or  
ECC1000 and ETC1000\*

**Exemption:** CT2 Finance and Financial Reporting

This unit contributes 60% to CT2 whilst ACC1100 (Introduction to Financial Accounting) makes up 40. A weighted average of at least a Distinction (70%) is required to be eligible for the exemption, where each of the units must be individual at least a Credit (60%).

**Subject Content:**

The aim of the unit is to introduce students to the theory and application of why and how value enhancing corporate financial decisions are made and implemented. Emphasis is placed on topics such as sources and types of funding and its valuation, project evaluation methods, asset pricing models, issues in capital structure and dividend policy and the efficiency of capital markets. This unit ensures students are equipped with the skills for making decisions to maximise firm value.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Berk, J., DeMarzo, P., Harford, J., Ford, G., Mollica, V. and Finch, N. (2018). Fundamentals of Corporate Finance (3rd edition) Pearson Australia, Frenchs Forest, NSW

**Assessments:**

Weekly Online Quizzes:	20%
Tutorial Participation:	5%
In-Semester Test:	25%
Final Exam:	50%

# BFC2140

## Comments

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**General Overview:**

Overall, although the unit is slightly theory heavy, it is extremely interesting with practical applications within the financial and economical world.

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**Lectures:**

Unfortunately, the lectures were not extremely engaging or interesting but were compensated somewhat by the lecture slides. The lectures comprised of both theory and example-based problems to help explain the concepts. As there was a break between the first hour and the second hour of the lecture, it allowed for interaction and discussion with the lecturer. All lecture slides were uploaded in full on Moodle a week prior to the lecture.

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**Tutorials:**

Tutorials began in the first week with homework due the first tutorial. Although tutorials were only one hour long, the tutors made it engaging and instigated informal yet useful discussion regarding both theory and solution explanation. It was necessary to attend tutorials due to participation and homework due each week.

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**Assessments/Other Assessments**Online Quizzes (20%):

The quizzes took approximately 1–2 hours to complete. They were very useful for both weekly and exam revision. Some questions were challenging and required the use of excel.

Participation (5%):

This mark was easy to gain if you completed the weekly homework and answered or initiated discussion on the questions

Mid-semester Exam (25%):

The mid-semester exam covered the first 6 topics and tested mainly the foundation financial math and basic theory. It was relatively easy if students had studied all the relevant formulas and knew how to use them well. Practice was provided.

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**Exams****Final Exam (50%):**

The final exam, though focusing on the theory from the later topics, did cover some of the foundational financial maths from the earlier topics. It is important to cover the theory well as the exam was very theory based.

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**Concluding Remarks**

Overall, BFC2140 is an interesting unit. It is important to keep on top of the weekly quizzes as they have a deadline and expired every Friday evening. As most of the foundational knowledge is tested in the mid-semester exam, it is important to cover the theory for the final exam. The online quizzes and tutorial questions are another resource for practice exam revision.

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# BFC2340

## Debt Markets and Fixed Income Securities

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**Difficulty:** ■■■■□

**Year Completed:** Semester 1, 2018

**Prerequisite:**

BFB1001, BFC2140\*, BFF1001,  
BFP1001, BFW1001

**Exemption:** CT1 Financial Mathematics

This is a standalone exemption unit. Need to score a 70% or higher in the course.

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**Subject Content:**

The unit is about bond markets and how they operate, specifically the US bond market. The first half of the unit introduces and expands on bonds, their pricing and yields – this includes different types of bonds, as well as factors affecting their yields. The second half of the unit focused on the different types of debt instruments and aspects relating to bond portfolios. The construction of portfolios, as well as their management is covered.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

*Bond Markets, Analysis, and Strategies, Fabozzi, F.J., 2nd Edition.* – Textbook is not required as all exam material is from the lecture slides. Lecture slide material is mostly obtained from the textbook however.

**Assessments:**

Tutorial Participation:	10%
Mid-Semester Test:	30%
2-Hour Final Exam:	60%

# BFC2340

## Comments

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### General Comments:

There is quite an amount of content covered in this unit, so it is best to maintain on top of new content and tutorial questions to make it much easier coming up to the exam.

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### Lectures:

The lecture slides are the best tool in both learning and revision, as assessments (the mid-semester test and the final exam) match quite closely to the content in the slides. The lectures themselves are not completely necessary to attend, since the recordings are sufficient. However, for complete understanding it is good to attend lectures.

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### Tutorials:

The first 2 weeks of the unit may be relatively simple due to BFC1001 and/or BFC2140 (Corporate Finance 1) as there is a fair amount of financial maths involved. Moving forward, the content is new and sometimes abstract and takes time to grasp. Once again, it is imperative to stay up-to-date due to the sheer amount of content. The first tutorial is not compulsory, however it is good to attend as it is revision. It is good to attempt the tutorial questions before class as the tutorial goes through each question meticulously.

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### Assessments/Other Assessments

The assessment structure is 10% Tutorial Participation (includes attendance and participation in the tutorial), 30% Mid-semester test which tests on topics covered in weeks 1-4 and the Final exam worth 60% which covers all weeks.

The questions in the exams are split up into the different topics covered each week so knowledge of all the content is required to do well on the exams.

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**Exams**

The mid-semester is a 75-minute long exam. The exam is 40 marks – 10 marks are allocated per week of content covered prior to the exam.

The Final Exam is a 2-hour long exam. The exam is 100 marks – there is a total of 10 questions that cover all the topics covered in the semester. There is an equal weighting of all the topics so it is not possible to skip any topic.

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**Concluding Remarks**

The textbook is not entirely necessary, even as a reference. Practice exams were provided and have the closest resemblance to the actual exams. Tutorial questions are also an excellent revision resource. However, some questions that go beyond the depth of the lecture slides are the next best resource.

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# ETC2410

## Introductory Econometrics

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**Difficulty:** ■■■■ □

**Year Completed:** Semester 1, 2018

**Prerequisite:** ETC1000

**Exemption:** None

This unit is a prerequisite for ETC3460, one of the CT8 exemption units.

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**Subject Content:**

This unit serves as an introduction to econometrics. The subject is broken into two main halves. The first 6 weeks focus on multiple linear regression modelling and build upon concepts covered in ETC1000, whilst the last 6 weeks focus on Time Series data, its strengths and weaknesses and methods of resolving some of the issues that occur in time series modelling. The unit involves identifying data (cross-sectional and time-series data) and utilising it so as to complete predictive and prescriptive analytics. Specifically, the course involves simple linear regression and multiple linear regression, as well as heteroskedasticity, forecasting, and serial correlation. Lectures occurred in two one-hour sections. Tutorials ran on a weekly basis for an hour-and-a-half.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour computer lab

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Introductory Econometrics: A Modern Approach (5<sup>th</sup> Edition)

**Assessments:**

Group Assignment 1:	10%
Group Assignment 2:	10%
In-Semester Test:	10%
Participation:	10%
2-Hour Final Exam:	60%

# ETC2410

## Comments

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### Content:

ETC2410 is a reasonably difficult unit as it is most likely that it will be the first unit completed of this nature. If all work is completed and regular study occurs, the subject is not too difficult. The subject is quite mathematical and lends itself to those who are mathematically minded. However, many of the proofs are gone over in tutorials and consultation hours are always a good way to get help. Essentially, initial comprehension of the content can appear difficult. However, further work and reading will solidify these mostly basic ideas.

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### Lectures and Tutorials:

The lectures were poorly delivered. There was a distinct lack of clarity from the lecturer. The lecture slides and tutorials served as better learning tools. However, lectures still proved useful for several minor details which must be classified. Before each lecture, it is a good idea to print out the lecture notes, enabling students to fully listen to the lecture and focus on understanding the content, rather than focusing on writing everything down. Lectures were all fully recorded. I would recommend watching the recordings as you can pause to comprehend the content. Lecture slides were uploaded every week on Moodle.

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### Tutorials:

Tutorials commenced in the first week and ran for an hour-and-a-half. They began with handing in homework and then consisted of going through questions for the remainder of the time. The tutorials are very beneficial, and it is important to not sit passively in the tutorial. Instead, take notes when your tutor writes notes and follow along on EViews as your tutor demonstrates. This helps to consolidate the lecture material and explains how to use EViews, a computer programming tool that is not directly tested on the exam but is essential for the modelling required in the assignments.

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**Assessments/Other Assessments****In-Semester Test:**

The in-semester test was multiple choice, but definitely required study to do well. Practice in-semester tests were provided as study resources.

**Group Assignment 1:**

The first assignment had the following learning outcomes: Interpret, evaluate and apply inferential methods to linear regression and understand the use and implications of data scaling and functional form in regression modelling.

**Group Assignment 2:**

The second assignment had the following learning outcomes: To be able to answer a business or economic question based on regression analysis.

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**Exams**

Topics were evenly covered, and the exam included both theory and practical applications of knowledge. Past exams were provided as practice. A double-sided A4 Formula sheet was helpful and worth spending time on.

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**Concluding Remarks**

It is important that students keep on top of this course. Tutorials are crucial and group assignments should be completed early and not left to the last minute.

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# ETC2420

## Statistical Thinking

**Difficulty:** ■■■□□

**Year Completed:** Semester 2, 2017

**Prerequisite:** Students must complete one of the following units: *ETC1000\**, ETW1000, ETX1100, FIT1006 or STA1010 before undertaking this unit

*\*ETC1000 is recommended*

**Exemption:** CT6 Statistical Methods

This unit is worth 50% of the CT6 exemption and is paired with ETC3420 (Applied Insurance Methods), also worth 50%. Students will need to attain an average of 70% between the two units and not less than a 60% in either. Further, each assessment in this unit has a 60% hurdle requirement.

### Subject Content:

ETC2420 focusses heavily on modelling and analysis of data to apply to real-life situations. The first part of the course covers decision theory through game simulation and common statistical distributions, the latter is an important topic for actuarial studies. Following on, the course introduces randomisation, permutation and bootstrapping which are methods of compiling data. Finally, topics that are closely related to probability such as generalised linear models, Bayesian statistical thinking and risk and loss models will be taught. This semester, specifically, lectures were recorded, and in-lecture quizzes were often included to consolidate knowledge. The labs focus completely on R Studio where you will be allocated into groups weekly to complete a lab report - these topics occasionally align with the topics taught in lectures. R Studio is used to perform calculations, fit models and run diagnostics, among other uses, all requiring coding to complete — most of which is provided by lab supervisors.

### Lecture(s) and Tutorial(s):

Two 1-hour lectures  
One 1.5-hour computer lab

### Lecture Recording:

Full – Video and audio

### Textbook(s):

Introductory Statistics with Randomization and Simulation (Diez, D; Barr, C; Cetinkaya-Rundel, M) (1<sup>st</sup> edition)

The textbook was accessible for free via a link that was provided by the lecturer. However, it was not used at all throughout the semester. In saying this, it is a useful text to reference for specific topics in the lecture notes.

**Assessments:**

Weekly Group Lab Reports:	25%
Weekly Individual Online:	15%
Quizzes	
2-Hour Final Exam:	60%

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# ETC2420

## Comments

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### **Content:**

Overall, the unit is fairly interesting once you understand the content holistically. At first, this unit seemed simple enough to manage among other second year units. Throughout the semester, however, the structure of the lectures and content — as well as the format used to present these — proved to be slightly more difficult to stay on top of. The weekly quizzes were useful in revising content. The toughest part of the unit can be the weekly lab reports for those who have not had prior experience with coding. Furthermore, at times, it was frustrating to not have separate tutorials that specifically focussed on the lecture content. Coding is not essential for the exam, but analysis of output is. The topics covered in this unit are in fact quite simple. Having a friend to go through the content is very handy.

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### **Computer Labs:**

Computer labs began in the first week of the semester and lasted 1.5 hours. Students are introduced to the coding and modelling program R straight away. During the first part of tutorials, we were taught how to code. Then, we would apply it to a practical example that was similar to our lab report questions. Tutorials were quite difficult for those who had no experience in coding as it is taught at a fairly fast pace overall. Individuals with previous programming experience may find the first few weeks easier, though this is not always the case. It is generally a good idea to pre-read what the lab will be based on, even though most of the coding will be done in the lab. As the lab reports contribute to 25% of your overall grade, it is important to work well in your group and spend ample time figuring out how to code and analyse the data. The analysis will become useful for the exam.

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**Assessments/Other Assessments****Lab reports:**

A lab report is to be completed every week, though only the best 10 reports will be counted towards the final mark. Each lab covers the content from the previous week's lecture material. Upon receiving marks, the only feedback that is given is what was incorrect as a few lines of feedback on Moodle. Depending on your lab supervisor, the amount of feedback may vary.

**In-lecture quizzes:**

This was undertaken in most lectures after the first few weeks, though was inconsistent throughout making it difficult to assess whether there would be one in a particular lecture in a particular week. These are generally simple enough, as they are almost replicas of what is in the lecture slides with some minor adjustments.

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**Exams**

Typically, each question on the exam would cover one topic covered throughout the semester. However, not every topic was assessed. Across the 2-hour exam, there were 100 marks. Two practice exams were provided, with answers.

The exam is not overly daunting, but it is important to understand every topic that was covered during the semester. As expected, pay attention to the topics that the lecturer dwells on. As long as you have a sound understanding of all course content, in-lecture examples and carefully study the analysis part of lab reports, the exam is definitely do-able. A calculator is permitted and is of use during the exam and a formula sheet was provided.

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**Concluding Remarks**

Don't stress too much about the coding for the weekly lab reports, but just in case, it is always a good idea to attend consultations. As tedious as the weekly lab reports are, do not let your group down by not doing any work.

It is important to understand the fundamentals of the content taught so that it can be easily applied to different questions. This unit is fairly straight-forward, and if you're genuinely dedicated to actuarial studies, this unit shouldn't pose too great of an obstacle.

# ETC2430

## Actuarial Statistics

**Difficulty:** ■■■■□

**Year Completed:** Semester 1, 2018

**Prerequisite:** ETC1000

**Exemption:** CT4 Models and CT5 Contingencies

ETC2430 contributes 35% of the marks for both CT4 and CT5 exemption. A weighted average of 70% between this class and ETC3420 for CT4 and ETC3530 for CT5 is required for the respective exemptions. You must not score below a 60% in any of these units.

**Subject Content:**

This is an introductory actuarial unit involving basic financial and stochastic techniques. The first few weeks of the subject introduce different financial instruments before delving deep into interest rates and the various types of annuities. It is here where you are introduced to the derivation of these concepts, as well as actuarial notation. The middle weeks of the subject deal with probabilities, mortality rates and life tables. The unit then gets slightly more theoretical when discussing actuarial theory of exposure and different models, before finally introducing the actuarial concepts of pricing and reserving.

**Lecture(s) and Tutorial(s):**

Two 2-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

No prescribed textbook. Core Technical guides, provided by the Society and Faculty of Actuaries is most applicable, with ActEd resources proving most useful.

**Assessments:**

Mid-Semester Test 1:	20%
Mid-Semester Test 2:	20%
2-Hour Final Exam:	60%

# ETC2430

## Comments

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### General Overview

The content in and of itself is engaging and interesting. For many students, ETC2430 may be the first insight to actuarial work and application. The course involves foundational financial knowledge with aspects of statistical and algebraic mathematics. The unit is challenging and rewarding.

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### Lectures

The lectures were presented extremely poorly. While the content (slides) were satisfactory, the presentation approach was not up to standard. A lack of direction and knowledge from the professor meant a distinct lack of focus and comprehension from the students.

Lecture slides were complete and available on Moodle prior to each lecture.

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### Tutorials

Tutorials began in the second week and ran from a duration of one-and-a-half hours. Tutorials were excellent and crucial for an understanding of the mathematics involved within the unit. Tutors provided clarity which was not delivered in the lectures.

Tutorials involved a revision of homework questions, test preparation and an overview of useful mathematics which could be applied within the unit.

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### Assessments/Other Assessments

There were two mid-semester tests in this unit. The first of which involved basic financial mathematics and was extremely easy. However, the second mid-semester test was frankly irrelevant and extremely difficult, most likely a result of the high average marks obtained from the first mid-semester test.

The mid-semester tests included only twenty total marks each and contributed to twenty percent of the overall grade each. This meant that minor mistakes were extremely costly. Unfortunately, the tests themselves failed to reflect what was taught or delivered as tutorial questions – a wide actuarial and mathematical knowledge was required to ensure high marks. This same approach occurred for the final exam.

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**Exams**

The exam itself was reasonably fair, testing both foundational knowledge as well as difficult applications of broad actuarial and course knowledge. The two-hours provided proved to be more than enough, providing students had the knowledge required to work out the problems.

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**Concluding Remarks**

Consult the Core Technical (CT) guides as well as the ActEd materials for course knowledge. Do not rely on the lectures for understanding as the current professor is inexcusably inexperienced with the content.

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# ETC2440

## Mathematics for Economics and Business

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**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2018

**Prerequisite:** ETC1000

**Exemption:** None

This is a required unit for the Actuarial Studies degree and is a prerequisite for ETC3510, one of the CT8 exemption units.

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**Subject Content:**

This unit introduced mathematical techniques that will be useful for econometrics, economics, finance, and business. The unit is divided into two parts – Matrix Algebra and Calculus. This is further divided into four main topics: matrix algebra, sets, functions and sequences, continuous functions, differentiable functions and optimisation.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Fundamental Methods of Mathematical Economics 4th edition.  
Chiang and Wainwright.

**Assessments:**

Tutorial Participation:	5%
Group Assignments:	1 x 11% and 2 x 12%
2-Hour Final Exam:	60%

# ETC2440

## Comments

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### General Overview

Overall, I found this unit quite interesting and far less challenging than I expected. Topics that were covered were matrix algebra, sets, functions and sequences, continuous functions, differentiable functions and optimisation. Integration was only grazed over in week 12 and was not examinable. The matrix algebra component of the unit should be relatively straight forward with half the content basically a revision of year 12 matrices. However, it soon picks up as you are introduced to new concepts such as eigenvalues and eigenvectors.

After matrices, we are introduced to basic concepts of sets, functions and sequences whereby a lot of new notations and definitions are introduced. Despite the content being already familiar, it's important that you familiarise yourself with these definitions and notations as they will overlap with topics later on, such as differentiable functions and optimisation.

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### Lectures

The matrix algebra component was lectured by Dan Zhu and the other topics were lectured by John Stapleton. The lectures were worth attending as they consolidate your knowledge of what is already in the lecture notes. The lecture notes were comprehensive and very detailed. Reading the lecture notes beforehand is very helpful as it allows student to prepare for the information to come. The lectures were more theory based and lacked examples. Although the lectures were not compulsory, John Stapleton did utilise the whiteboard when explaining concepts which could not be seen by watching the lectures online. The lecture notes are released around a week before we cover the topic.

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## Tutorials

Tutorials began in the second week of the semester and were 1.5-hours long. Participation was compulsory and accounted for 5% of students' marks. The tutor would go over each question in the tutorial sheet. I found the tutorials to be more useful if you've completed the questions beforehand. The content in the tutorials are based on the content you've learnt the previous week and are very similar to the examples provided in the lecture notes.

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## Assessments/Other Assessments

### Group Assignments:

There were three group assignments throughout the semester. There were about 4-5 questions on each assignment and students were expected to work collaboratively on the assignment to understand the content. The questions in the assignments are very similar to those in the exam, so it is strongly recommended to understand each question and how to solve it. The marking is dependent on your specific tutor – some tutors may mark harshly and penalise you for lack of working out and or small errors.

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## Exams

The final exam was straight forward and was very similar to the practice exam. Each topic was evenly covered. There were 4 questions each based on one of the topics covered. Practice questions were taken out of the tutorials, so a bit of effort is required to locate the answers. The tutorial and group assignment questions were definitely worth utilising as practice for the exam as they were very similar to the questions on the exam.

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## Concluding Remarks

Overall, this unit is quite manageable. If you stay on top of your tutorial work and really attempt to understand the questions in the group assignments, it shouldn't be too difficult to get a good grade. Tutorials are definitely worth attending especially when the more difficult topics are being covered.

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# ETC2520

## Probability and Statistical Inference for Economics and Business

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**Difficulty:** ■ ■ ■ ■ ■

**Year Completed:** Semester 2, 2017

**Prerequisite:** ETC1000

**Exemption:** CT3 Probability and Mathematical Statistics

This unit in conjunction with ETC1000 makes up CT3, with this subject taking most of the weighting at 75% and ETC1000 contributing 25%. A weighted distinction average (70%) across the two units is required to attain the exemption, with a minimum credit grade (60%) in each unit.

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**Subject Content:**

This unit is a mathematics unit. However, a lot of topics taught are quite conceptual and require a strong understanding to be able to apply what is learnt to practical questions. The focal point of the entire unit is probability. The unit starts off with simple concepts of probability, such as: probability rules, conditional probability, independence and Bayes' theorem to name a few. Mid-semester, the unit goes into the different types of discrete and continuous distributions and their respective moment generating functions as well as independence and joint distributions. Lastly, the unit explores the concepts and proofs which are key data analysis tools such as; estimation, confidence intervals, sampling, hypothesis testing and variance.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Wackerly, D.D., W. Mendenhall and R.L. Scheaffer, Mathematical statistics with applications (7th edition), New York, Duxbury, 2002  
Hogg, R.V., Tanis, E. and Zimmerman, D. Probability and Statistical Inference (9th edition), Pearson, 2014.

Both textbooks are not compulsory but are highly recommended. Just attending the lectures and tutorials would

not be sufficient as the concepts taught in this course are extremely difficult. It is highly encouraged to do the extra question sets in the text (with answers provided in another document).

**Assessments:**

Fortnightly Online Quizzes: 20% (5 x 4%)

Online Mid-Semester Test: 20%

2-Hour Final Exam: 60%

*(NOTE: you must bring your own formula sheet into the exam!)*

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# ETC2520

## Comments

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### General Overview:

Unlike a traditional maths unit, nearly all topics that are taught are highly conceptual and require a strong understanding before attempting questions. This unit is infamously difficult, however, if the student is able to UNDERSTAND the content and why things occur rather than memorising it, the unit should be tolerable. A good foundation of basic probability is quintessential, so it is of utter importance that the first few weeks of the course and concepts of basic probability are mastered. Luckily, the first few weeks are the easiest. Nevertheless, when it gets to the point of having to generate functions, it begins to get slightly difficult. From this moment onwards, it is crucial that students remain on top of their work, always attempting tutorial questions to further their understanding. As always, practice makes perfect, however this phrase carries much more weight in this unit. Lastly, more often than not, the actual mathematics of the problem is relatively straightforward - the hardest part is figuring out what the question is asking you to do.

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### Lectures:

The lectures were worth attending as the lecturer did build upon the slides presented each week. However, it is not compulsory that the student attends. The lecture notes were comprehensive and extremely detailed. Slides are posted every week on Moodle which made learning at home quite easy with the aid of YouTube and other maths websites. The structure of the lectures was theory based; students would sit and listen to mathematical concepts whilst taking notes. I preferred going through the lecture notes and referring to the textbook beforehand to see what I did and didn't understand. Afterwards, I would watch the lecture. This allowed me to be more prepared for the information to come and I would be less confused.

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**Tutorials:**

The tutorials began in the second week of the semester. Unlike lectures where the student can pass by without attending, tutorials are of profound importance to this unit as it is the only place where you can apply the skills learnt in the lectures with assistance. There will be no detailed solutions for the tutorial questions, so attending the tutorials is extremely beneficial. Make sure to try the questions at home first as it is the best way to learn and test your own knowledge. The tutorials just go through the weekly tutorial tasks posted on Moodle in the previous week. All material for a particular tutorial is covered in the previous week's lectures. Tutorial questions aren't enough to fully test students' knowledge. They are usually sufficient for students to get the feel of how to solve similar questions, but don't help solidify what they've learnt. This is where the textbook comes really handy. There is a vast array of examples for students to familiarise themselves with more complex questions in order to gain confidence when solving difficult problems.

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**Assessments/Other Assessments****Online Quizzes:**

The in-semester assessment tasks are relatively easy, and with sufficient understanding it is well within reach to do very well. This is because each fortnightly quiz is open for 3 days, and multiple attempts are allowed. Moodle will take your best attempt for that week. Each quiz consists of 5 questions (both multiple-choice and short answer) that cover all the material taught in that particular week. The online questions are not particularly difficult. They're relatively straightforward and if you've attended the tutorials for the previous weeks, you should be okay. The issue with the online quizzes is that they don't really test your knowledge, nor do they prepare you for the final exam.

**Online Mid-Semester Test:**

The mid-semester test is of a similar nature; however, you do not have an abundance of time and if you are using notes, you must be quicker due to the finite amount of time. The test is open for a day. Students have an hour to complete 5 questions. Once again, questions are both short answer and multiple-choice.

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## Exams

The final exam is where the difficulty of the subject is showcased, some questions were too difficult for students to answer. For the past two years, the exam has been very difficult. All topics in this unit are assessable. However, the exam focused heavily on content from the last three weeks of the semester. It is of utmost importance that all tutorial tasks are understood. Students should prepare themselves that the nature of questions in the final exam is extremely different from the online quizzes throughout the semester. The lecturer provided students with one practice exam filled with questions that are likely to be assessed on the exam. However, do not attempt to complete all these questions the night before the exam because the difficulty of these questions renders this feat impossible. There are also no solutions to these questions, students must take the initiative and visit their tutors to get their work checked.

*NOTE: although the formula sheet is permitted in the exam, it is not attached to the exam booklet. Thus, the student must bring in their own formula sheet.*

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## Concluding Remarks

Although the unit is infamously difficult, a good grade is achievable if the student stays on top of the work throughout the entire semester. Tutorials are extremely beneficial, and the student should strive to attain maximum in-semester marks to alleviate the pressure of the final exam. It is recommendable to undertake three easier units in conjunction with ETC2520, because a majority of students' study time is taken up by this subject.

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# **3000**

# **Level Units**

# ETC3400

## Principles of Econometrics

**Difficulty:** ■■■■□

**Year Completed:** Semester 2, 2016

**Prerequisite:** ETC2410\*, ETC3440\*  
or MTH2232

**Exemption:** None

One of the two units required to apply for honours by both the Commerce and Actuary degree. The other is ETC3410 Applied Econometrics

**Subject Content:**

The course revolves around maximum likelihood estimators (MLEs). The course has 7 topics, but will only go through 5. The first section will provide you with a general outline of OLS estimators and the assumptions used in ETC2410. The second and third section will then take you through an introduction of MLEs – what a MLE is and its properties. This will then be linked back to hypothesis testing in topic 4 – primarily the proof and properties behind the Likelihood ratio test, Wald test and the Score test as opposed to the actual interpretation. The course will then finish off with the final topic Quasi-Maximum Likelihood estimators which will be a new and rather difficult topic.

You will use EVIEWS in the assignments to write actual code. No previous knowledge of EVIEWS is required. Exercises on EVIEWS are available in tutorial sheets, with brief answers being provided. You will not need to write your own unique code, but you will need enough knowledge to add to a provided baseline code.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None

**Assessments:**

Individual Assignments:	4 x 10%
2-Hour Final Exam:	60%

# ETC3400

## Comments

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### General Overview:

I recommend either ETC2410 or ETC3440, both are Introductory Econometrics. Furthermore, while the course does not assume any knowledge outside of the prerequisites, there is a heavy amount of statistical and matrix related algebra. I recommend you take this unit in your final year when you will be most comfortable with statistical algebra

This unit focused on theory and provided an understanding of how everything actually worked in other econometric units – primarily ETC3410 (Applied Econometrics) and ETC2410 (Introductory Econometrics). It was quite interesting to remove the black box nature of content from other econometrics units and actually understand how everything worked. The unit, however, does not have an application side, and hence should be done with ETC3410. I recommend this unit for anyone planning to do an Honours or who wants to understand the theory behind regression analysis.

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### Content:

The content in this unit is probably one the most difficult out of all the Actuarial units. You will explore a lot of proofs that are quite long and involve a lot of matrix algebra. You will also not be able to gloss over content like in other units and must learn everything taught in the unit thoroughly. If you can answer the tutorial questions properly you are definitely on the right track. If you can answer the tutorial questions but need one or two short looks at the lecture notes for the longer questions, you are also on the right track.

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### Assignments:

The assignments for this unit on the surface are quite straightforward. The assignments can be broken down into an EViews section and a non-EViews section. The EViews section involves simulating to illustrate certain theories and properties you learn throughout the course. You will then have to explain what property your simulation illustrates and why. The

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non-EVIEWS section on the other hand are a slightly harder version of the exam and are similar to the tutorial questions.

Although the questions in the assignments are quite straightforward, it is still quite difficult to score high marks as you are marked quite harshly. Absolute precision is the key to succeeding in these assignments. Your answers in the assignment have to use the correct wording and need to include ALL relevant details to complete an answer REGARDLESS OF WHETHER IT WAS SPECIFICALLY ASKED FOR. All details will be available in the lecture notes if you read through all of it thoroughly. You will also need to stipulate exactly where you use assumptions in your answers, and even make sure to capitalise all random variables. If you are not precise in your answers, you could easily find yourself losing over 15% of your marks even if you know all the answers. As a result, I recommend you do not do this assignment at the last moment, and cross-check with friends.

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**Final Exam:**

The final exam for this unit is quite straightforward if you understand the content but will be an absolute nightmare if you try to rote learn. You will be able to choose 4 out of 5 questions in the final exam and will be required to replicate ANY proof (unless otherwise stipulated) in the lecture notes (prompts will be provided, however, to make the proofs easier). A thorough understanding of the properties taught throughout the unit is also needed. This is the type of unit where pretty much anything can be assessed, but everything assessed is taught properly (so no curveballs). Several practice exams are also provided which provide a very good indicator of the format of the final exam.

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**Resources:**

References for textbooks, however, were provided for additional, non-assessable material, for certain theorems throughout the course.

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# ETC3410

## Applied Econometrics

**Difficulty:** ■■■■ □

**Year Completed:** Semester 2, 2016

**Prerequisite:** ETC2410\*, ETC2440, ECC2410, ETC3400\*

**Exemption:** None

One of the two units required to apply for honours by both the Commerce and Actuary degree. The other is ETC3400 Principles of Econometrics

### Subject Content:

Previous knowledge of OLS is assumed. If you did half-way decent in ETC2410 you will find this course challenging; if you got through comfortably then this course will be slightly less challenging. There are four main topics: Binary outcome models (Linear/Probit/Logit), instrumental variables, static panel data and program evaluation. The course focuses heavily on how to interpret the marginal effects of the various models in each section. Each topic was structured the same: Introduction to the material, minimal theory (it is an applied course), definitions and examples, an overall example tying the topics together, and finally a real-life example from past research. You will use STATA in tutorials. No previous knowledge of STATA is required. The first tutorial is in week 1 and is an introduction to the program. The tutorials follow the subject material perfectly while also introducing you to more functions in STATA.

### Lecture(s) and Tutorial(s):

Two 1-hour lectures  
One 1.5-hour tutorial

### Lecture Recording:

Full – Audio and Video

### Textbook(s):

Introductory to Econometrics, 6th edition. Stock and Watson.  
Econometric Theory and Method. Davidson and MacKinnon.  
Econometric Analysis of Cross Section and Panel Data. Wooldridge.

### Assessments:

Individual Assignments:	2 x 20%
2-Hour Final Exam:	60%

# ETC3410

## Comments

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### General Overview:

I found this class very interesting because of the number of real applications used in the lectures. Each topic included research results and you could see how the materials you were learning were being used to solve actual problems. The only drawback from the course is that it focuses on social science instead of mortality or finance subjects. As an actuarial student, there were no examples that could be applied to my field of study. However, the techniques are directly applicable.

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### Tutorials:

I found the tutorials immensely useful. Especially when I began the assignments and sat the exam. The tutorials were built as almost supplementary lectures. The first half-hour is used to go over topics from the week and the remaining hour is spent on programming and interpreting results. You should not skip the tutorials and be sure to take notes!

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### Assignments:

The assignments covered topics 1 - 4. With topic 5 being more heavily weighted on the final exam. The first assignment was a beast, but the second assignment was much shorter. The assignments are written very well as you can use both the lecture slides and the tutorial notes to help answer the questions. On top of this, the assignments are extremely good at preparing you for the final exam. Make sure you spend time on them!

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### Final Exam:

The final exam was a bit tricky as it was more explanation than interpretation. You really need to understand when and why to use each technique covered in the course. Unlike ETC1000 or even ETC2410 to some extent, there was very little “interpret the output” type of questions. That said, if you did well on the two assignments you will find the exam a bit easier. The two hours is just enough for a confident student, but if you struggle with a section you may find the time running out quicker than you like.

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**Textbook:**

Introduction to Econometrics was the required text for ETC2410. You will go through the second half of the text in this course, and it is more than enough to get you through the course. I had the 5th edition, nothing but problem sets changed, so if you want to save a bit of money go for it. In reality, the lecture slides and tutorials are built really well and you almost don't need a secondary source. There are a few topics that the book covers in more detail, so it is still worthwhile owning.

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# ETC3420

## Insurance Mathematics

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**Difficulty:** ■■■■□

**Year Completed:** Semester 2, 2016

**Prerequisite:** ETC2420, ETC2520 or MTH2222

**Exemption:** CT6 Statistical Methods

Exemption requires an overall weighted average mark of 70%, with ETC3420 (50%) and ETC2420 (50%). A minimum grade of 60% for each unit is needed.

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**Subject Content:**

ETC3420 directly follows the Actuary Institute CT6 Core Reading. From the Core Readings, the following units were covered:

Unit 2: Loss Distributions

Unit 3: Risk Models

Unit 4: Ruin Theory

Unit 7: Run-off Triangles

Unit 8: Generalised Linear Models (GLM).

Each of these units were covered and tested over a two-week period.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures

One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None. Follows the Actuary Institute CT6 Core Readings.

**Assessments:**

Fortnightly Tests: 5 x 6%

3-Hour Final Exam: 70%

# ETC3420

## Comments

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### General Overview:

Overall ETC3420 was a good unit. The lecturer was a very good teacher who actively tried to encourage participation in her lectures and was very good at remembering names. As well as being personally invested in her students (allowing generous consultation times and providing lots of feedback), Dan also gave lots of advice on the world of Actuarial Science. This included interview tips, expectations of knowledge as a working actuary and exam techniques. I would highly recommend Dan as a lecturer for any Actuarial students, as she helps broaden your understanding of theory and application like no other lecturer at Monash.

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### Lectures:

The lecture slides directly follow the core readings for each topic. Examples given in the slides miss key bits of information as these examples are taken from the core readings, so it is recommended you read the core readings in conjunction with the lecture slides to get a better idea of the concepts.

The lecturer Dan Zhu uses the whiteboard to derive results and to expand on the concepts taught in the lecture slides. These workings are not included in the MULO recordings, so it is advantageous to attend lectures, or to get a friend to send pictures of the workings to review whilst watching the recordings.

If you listen carefully you can pick up on hints for the tests and the exams in her lectures. The lecturer highlights important topics and these topics often make it to the fortnightly tests. This was true of the final exam also. Therefore, by paying attention in lectures and taking good notes will go a long way to passing the course.

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**Resources:**

For 2016 Semester 2, a lot of the test questions were taken from the Acted readings. Therefore, it is very advantageous to go through examples from the Acted notes and understand where the results were derived from.

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**Materials:**

The material covered has some cross overs with:

- Ruin Theory – covered in ETC3510 (MTH3251)
  - Run Off Triangles – covered in the old ETC1010
  - GLM – the core concepts of OLS estimators taught in ETC2410
  - Statistical integrations – MTH2222 / ETC2520
  - Matrices – ETC2440 / MTH1030 (wasn't really examined)
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**Prerequisite:**

ETC2420 provides the other half of CT6, with only a little overlap with ETC3420. ETC2520 provides covers statistical distributions and statistical tests. MTH2222 provides a more in-depth understanding of the mathematical techniques of the statistical distributions than ETC2520. However, ETC2520 is part of the CT3 exemption.

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# ETC3430

## Financial Mathematics Under Uncertainty

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**Difficulty:** ■■■■■

**Year Completed:** Semester 1, 2017

**Prerequisite:** ETC2430

**Exemption:** CT4 Models

This unit contributes 65% to CT 4, where ETC2430 (Actuarial Statistics) makes up the remaining 35%. A weighted average of at least a Distinction (70%) is required to be eligible for the exemption, where each of the units must be individually at least a Credit (60%)

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**Subject Content:**

The topics covered in this unit are based upon the required learning modules stipulated by the Actuaries Institute, and include: Markov Chains and Jump Processes, survival models, lifetables and lifetime distributions, Cox regression models, exposed to risk and graduation.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Actuarial Mathematics for Life Contingencies – the textbook is never used in class and is not necessary as there is plenty of extra reference material.

**Strongly Recommended:** Subject CT4 Contingencies Core Technical, IFoA.

**Assessments:**

In-Class Tests:	2 x 10%
Tutorial Participation:	10%
2-Hour Final Exam:	70%

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# ETC3430

## Comments

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### General Overview:

Overall, the unit is quite difficult and follows up on content that was covered in the prerequisite subject. Going into the unit, it is expected of you to have a general understanding of actuarial statistical concepts that have been taught in other subjects. Although there aren't too many topics that are covered, all of them are by no means easy, and require a lot of effort to understand.

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### Lectures:

The scheduled two-hour lecture usually only lasted one and a half hours, and was overall quite engaging, with the lecturer often going through questions with the class. Although the subject can still be learnt without attending the lectures, it is greatly beneficial to attend them, and then use the other resources provided to consolidate your knowledge. There was a mixture of theory and examples within the lectures, however, in saying that, the course leaned more towards the theoretical side. The lectures were fully recorded, and no physical material was available at the lecture, so using the recording is also a viable way of learning the content.

The lecture slides were complete and uploaded to Moodle on a weekly basis.

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### Tutorials:

Tutorials began in week two and lasted for one-and-a-half hours. The tutor went through the ideas taught in the week's lectures, before going through tutorial questions and answering questions. Tutorial participation counts for 10% of the final mark, so attendance is highly recommended, as well as the fact that tutorials are essential if you have anything you need clarification for. Preparation for the weekly tutorials involves going through lecture material and noting difficult areas that need clarification as well as attempting the tutorial questions. Although there was nothing that was taught specifically in the tutorials, attending

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them is very helpful towards better understanding the materials, as the tutor provides a lot of explanations and ideas. There were only three possible tutorial times, so there isn't much flexibility in that regard, but it is quite easy to attend a make-up tutorial.

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### **Assessments/Other Assessments**

There were two in class tests and tutorial participation that contributed to final marks.

There were two tests, one before the mid-semester break and one at the end of unit, and they were held during the lecture time. Each test covered half of the material learnt in the unit and tested your understanding of the concepts and ideas taught. Without sufficient understanding and practice, they are quite difficult. Everything was individual apart from a group presentation in the tutorials that is quite straightforward. The class tests helped you gauge how familiar you are with the material and was a useful indicator in how much extra work you needed to do. The markers were quite lenient and consistent with their markings.

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### **Exams**

For the exam, the topics were quite evenly covered, with approximately one question on each of the major topics covered, meaning a broad understanding of the entire unit is required to do well. As this is a new unit, there are no past exams, but there is plenty of practice materials in the form of CT4 exams from the Actuary Institute, which cover the same topics we learn in class. Nothing was permitted in the exam and only necessary statistical tables were provided. The exam was a bit harder than the class tests, and on par with the difficulty of CT4 exams from the institute. Exposure to a wide range of questions is very helpful in this regard, as the exam is quite long, and so familiarity with the content is essential.

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### **Concluding Remarks**

The course focuses heavily on understanding and familiarizing yourself with the content, and hence it is essential that extra time is taken to complete all the tutorials and go over the complementary materials. This will be one of the hardest subjects an actuarial student at Monash will have to do, and

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hence it is imperative that you go into the subject with a strong foundation from previous subjects, and well as a focused mentality.

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# ETC3460

## Financial Econometrics

**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2018

**Prerequisite:** ETC2410, ETC3440, MTH2232 or equivalent.  
**Recommended prerequisite:** ETC2410.

**Exemption:** CT8 Financial Economics

This unit is worth 50% of the CT8 exemption and is paired with ETC3510 Modelling in Finance and Insurance. You will need to get an average of 70% between the two units and not less than a 60% in either.

**Subject Content:**

This unit begins with an overview of basic statistics and probability for the first few weeks then focuses on asset pricing, modelling returns and modelling asset volatility. The bulk of the semester involved modelling asset volatility (including autoregressive conditional heteroskedastic volatility model (ARCH), GARCH models and asymmetric volatility models). Each topic covers the features of the most suitable model that will capture financial returns, given the stylised facts. During lectures, relevant content is supplemented by real-world examples. The tutorials heavily involve E-Views as we apply the knowledge learned in lectures.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour computer lab

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None. Notes fully provided by the lecturer. The lecture slides covered all content.

**Assessments:**

Group Assignment 1:	18%
Group Assignment 2:	18%
Tutorial Quizzes	4%
2-Hour Final Exam:	60%

# ETC3460

## Comments

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### General Overview

Overall, I quite enjoyed the unit as the content always tied back to the stylised facts of financial returns. There are many models to learn and remember so following the tutorials can be tough. The lectures are fairly straightforward and very engaging. It is important to remember basic statistical content such as notation and assumptions of error terms from level 2 statistic units.

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### Lectures

The lecturer was very engaging and always tried to keep the content and examples relevant and interesting. The lectures were both example-based and theory-based which enabled students to understand how the theory they are taught can be applied. Lectures were fully recorded with some technical difficulties that led to one or two lectures not being uploaded. The lecture notes are available on Moodle – no material is exclusively available to the physical lecture audience.

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### Tutorials:

Tutorials were not compulsory to attend but were extremely useful, particularly leading up to the assignments. As the assignments are heavily based on tutorial work – it is definitely not recommended to skip tutorials. Whilst the tutorials were often dedicated to learning how to use E-Views as well as consolidating content from lectures, tutors were aware of this and thus would go at an efficient pace or send extra materials. Some topics that were covered only in tutorials and not in lectures.

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### Assessments/Other Assessments

#### Group Assignments:

There were two group assignments that heavily relied upon the use of E-Views. Tutors were more than happy to provide hints when groups were unsure of how to approach the tasks. The assignments were fairly similar to the tutorials and there were rarely any curveballs.

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#### Tutorial Quizzes:

There are also two tutorial quizzes that are worth 2% each. They are very simple and straightforward. The quizzes contained less than 15 questions.

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#### **Exams**

The exam was heavily focused on the models taught in lectures and tutorials. During Week 11 and 12, there were revision tutorials that covered potential exam topics. The exam was not overly difficult but required students to have sound knowledge of the assumptions and purposes of each model.

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#### **Concluding Remarks**

Maintain a robust understanding of the models throughout the semester and do not leave these topics to the last minute.

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# ETC3510

## Modelling in Finance and Insurance

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**Difficulty:** ■ ■ ■ ■ ■

**Year Completed:** Semester 1, 2018

**Prerequisite:** One of MTH2010, MTH2015, MTH2032 or ETC2440\* and one of MTH2222 or ETC2520\*

**Exemption:** CT8 Financial Economics

This unit is worth 50% of the CT8 exemption and is paired with ETC3460 Financial Econometrics. You will need to get an average of 70% between the two units and not less than a 60% in either.

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**Subject Content:**

This unit covers the mathematics and the theory that underlie real-world insurance problems and financial asset valuation. The content covered includes the mathematics of: random walks; martingales; applications of martingales to insurance; Brownian motion; stochastic (probabilistic) calculus using Brownian motion; stochastic differential equations; options pricing; interest rate modelling; and the fundamental theorems of asset pricing.

Lectures cover the content in order as written out in the unit's notes booklet. This contains all the relevant theory, problems and some solutions to the topics. The tutorials are called support classes where the tutor goes through each of the set tutorial questions per week.

**Lecture(s) and Tutorial(s):**

Three 1-hour lectures  
One 2-hour tutorial

**Lecture Recording:**

Partial – Audio and Video

**Textbook(s):**

No textbooks required.

**Assessments:**

Weekly Homework	10%
Submission:	
Two Assignments:	30% (2 x 15%)
3-Hour Final Exam:	70%

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# ETC3510

## Comments

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### General Overview

While this is an ETC unit, it is taught by the mathematics faculty of the university, under an MTH code.

This unit covers mathematics through the entirety of the course. As long as you are confident in your abilities to learn the maths, rather than do the maths, this unit is relatively straightforward. In saying this, the type of mathematics covered is new and challenging, especially for pure actuarial students. Hence, expect difficult topics and learning hurdles.

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### Lectures

The lectures mainly consist of the lecturer redoing the material from the unit notes booklet; because of this, it is easy to find and follow what the lecturer is going through. The lectures are quite useful as there are topics where jumps in logic, which are not explained in the notes, can be found.

The lecturer writes down the mathematics using pen and paper, rather than PowerPoints, and as such only the display showing the writing pad is recorded in addition to the audio. Since the unit is taught by the mathematics faculty, the 3 one-hour lectures per week are detailed and undertaken with their maths experience.

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### Tutorials

Two sets of exercise questions are selected and posted on Moodle each week.

One set of exercise questions is for the tutorial. It is expected that the question be attempted prior to the class as tutors go through the material expecting that students have a general idea of the topic. The tutor goes through each question, though depending on their pace some tutors do not get through the entire set by the end of the tutorial. The material covers the content from the previous lecture.

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The second set of exercise questions is for assessment — this is the weekly homework that must be submitted in hard copy to the tutor. This is expected to be completed for submission by the tutorial. The homework generally covers the content from the previous tutorial's material.

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#### **Assessments/Other Assessments:**

##### Individual Assignments:

There are two individual assignments. The first is based on the first half of the unit, having a more theoretical focus. The questions are similar to the ones found in the tutorial questions. The second is based on the entire course, however, it has a more practical focus, incorporating content into insurance and financial applications. Both assignments can be hand-written or typed; however, they both also need to be physically submitted into a submission box located in the mathematics faculty's building.

##### Weekly Homework:

There are ten sets of weekly homework. Each generally contains material covered in the previous tutorial. The questions are similar to those of tutorial questions, though can contain some additional extension questions.

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#### **Exams**

Almost all topics appear in the three-hour exam. Each question, however, may include concepts and/or theory from multiple topics.

There is plenty of revision material available in the form of practice questions. The main resources are practice exams, where solutions are usually provided. The assignments and their solutions are the next most useful resource, as application questions may be similar to those found in them. Lastly, the weekly homework, weekly tutorial questions and their solutions are available for residual practice; they are still quite useful despite having completed them throughout the semester.

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#### **Concluding Remarks**

There are times where the complexity of this unit is similar to that of ETC2520. As long as you maintain the motivation to learn the mathematics behind the notes, you can do very well in this unit.

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# ETC3530

## Contingencies in Insurance and Pensions

**Difficulty:** ■■■■■

**Year Completed:** Semester 2, 2016

**Prerequisite:** AFC2340, ETC2430\*  
or BFC2340

**Exemption:** CT5 Contingencies

This unit is worth 65% of the CT5 exemption and is paired with ETC2430 Actuarial Statistics. You will need to get an average of 70% between the two units and not less than a 60% in either.

**Subject Content:**

This course assumes prior knowledge of basic annuities and whole life assurances as well as commutation functions. These are all taught in the prerequisite ETC2430. The subject material follows the Core Reading from the Institute quite closely. The overall aim of the class is to price products. Just about everything you learn will be used in some sort of product pricing. Weeks 1 - 4 build-up the formulae and tools you will need to begin pricing simple products in weeks 5 –7, weeks 8 –11 add further tools and formulae used to price more complex products. Week 12 is used to catch up on any outstanding material and a final revision lecture.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Actuarial Mathematics for Life Contingent Risk. Dickson, Hardy, and Waters.

Principles of Actuarial Science. Sherris.

Actuarial Science. Winklel.

Subject CT5 Contingencies Core Technical. IFoA.

Formulae and Tables for Actuarial Examinations. IoA.

**Assessments:**

50-min In-Class Test:	20%
Group Assignment:	20%
2-Hour Final Exam:	60%

# ETC3530

## Comments

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### General Overview:

Most of the difficulty in this course comes from the volume of information you need to know. The individual topics are not hard if you put in the time. My advice for this course: form a study group, stay on top of the readings, do practice questions until your fingers bleed and your eyes go fuzzy and get the CT5 Core Reading.

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### Content:

To get off to a good start in this course, you will really want to have done well in ETC2430. The first few weeks of Contingencies is like a crash course of 2430 with the addition of more complex annuities and assurances. I cannot recommend the Core Technical readings enough. Most weeks it is just a chapter a week, some need 2, but if you stay on top of this reading, you will have no problems. A bit of a warning: students cannot rely on the lecture slides alone, this will not be enough. Further, there are many mistakes in key formulae in the slides. You will need to get at least one of the books from the list above to double check all the definitions.

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### Resources:

Practice questions are extremely important too. You will need to go over many, Colin will provide a link to past exams from the Institute, they are free to download from their site. DO THESE! The questions, especially towards the end of the exam get very involved. For me, tutorial questions were not as useful as the Q&A section of the Core Technical reading or the practice exams. Also, many of the tutorial questions had incomplete, incorrect, or simply no answers. Really stick with the Institute's material. The types of questions in this course can become very involved, so there will simply not be enough time to get through everything in the tutorial.

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**Assessments:**

Both the mid-term and the final exam were written to press your time. I am not sure about everyone in the course this year, but the furthest many people got was halfway through the final question. Most people could finish the midterm, but there was no time to recheck your work. Practice questions are key to doing well on these.

The assignment is quite interesting. I enjoyed the topic and was not bored working on it. That being said, it is a lot of work. Especially if your job is creating the spreadsheet. You will need to have a good understanding of commutation functions and how to define assurances/annuities with them. You will make many mistakes, guaranteed, so be extremely diligent in your formulae and get others to check it, even from outside your group. Please do not leave the work until last minute, this is one that you will need to be on top of. 100% you will not be able to finish it if you think “ah, I’ll start it over the mid-semester break.”

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**Textbook:**

If you are only going to buy/read/work out of one text, make it the CT5 Core Technical. The course follows each chapter quite closely and there are exam style questions throughout the text. I cannot stress enough how important this is. You should buy, borrow, steal (well, not steal) but get your hands on it. If you haven’t already, I highly recommend purchasing the orange formulae and tables book too. This will come in handy throughout the entire degree, not just this course. I purchased the first book on the list, and found it useful for weeks 1 – 3, and also when I forgot approximations and needed to look them up. But overall, I really stuck to the Core Technical.

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# **4000** **Level Units**

# ETC4110

## Actuarial Practice I

**Difficulty:** ■■■■□

**Year Completed:** Semester 1, 2016

**Prerequisite:** Requires Head of Department's approval prior to enrolment

**Exemption:** Part IIA The Actuarial Control Cycle

Note: Exemption from Part II requires a 70% aggregate mark from ETC4110, ETC4120 and ETC4130.

**Subject Content:**

This class focuses heavily on understanding and applying content related to issues of the insurance industry, financial products and risk management. The concept of Actuarial Control Cycle is introduced as well as its practical application in a wide range of insurance industry. For example, life insurance, general insurance, health insurance, pension, superannuation funds and investment issues. You will also cover a range of financial products, the relevant business environment in Australia, regulation and product design. Most importantly, risk management is introduced which include risk types, risk treatment and the general concept of Enterprise Risk Management.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Partial – Only some lectures

**Textbook(s):**

"Understanding Actuarial Management: the actuarial control cycle", Institute of Actuaries of Australia, 2010, Second Edition. Authors: Clare Bellis, Richard Lyon, Stuart Klugman and John Shepherd.

**Assessments:**

Assignments:	1 x 12% and 1 x 20%
In-Class Test:	3%
Participation:	5%
3-Hour Final Exam:	60%

# ETC4110

## Comments

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### General Overview:

I found ETC4110 useful because the learning materials and teaching style prepared me for the transition to the workplace. We are trained to think critically by considering a wide range of perspectives. This unit expects to have at least 8 hours (exclude lectures and tutorial) of weekly self-study.

In sum, practice writing in English every day, even if English is your first language. Follow the weekly instruction to complete weekly tasks. Always question if you are not sure (don't assume).

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### Weekly Tasks:

(i) Weekly readings (normally 1 chapter from the textbook, additional materials if there are any on Moodle, revision of last week tutorial and homework)

(ii) Complete weekly homework (short answer and essay style question without word limit) which is required to be uploaded onto Moodle.

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### Class Participation:

You will not get a mark by showing up in the lecture/tutorial, instead, you have to ask/answer questions to gain the mark. You don't have to crack your head to think of smart question/answer, as long as they are sensible.

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### Assessments:

#### Assignments:

Assignments help you revise the learning materials, you need to organise the ideas and present them in an appropriate way. There is no right or wrong answer. However, you need to think out of the box by showing you have truly understood the learning materials to score well.

#### Class test:

It normally takes 10 - 15 minutes and worth 1% each. As long as you have been following the weekly instruction to complete your weekly tasks, and understand the content, you will be fine. The test is meant to test your understanding and train your writing skills under exam condition.

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#### Final exam:

A 3-hour exam with a total of 100 marks (no hurdle requirement). It has both short answer (between 1% - 5%) and essay style (up to 15% - 20%) questions. Please note that ALL of the lecture slides are examinable. The exam focuses on your understanding and application of the textbook and lecture slide contents regarding practical issues. Past exams may/may not be provided by the lecturer; the question style is similar to the past exam.

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#### **Consultation and Feedback:**

One of my biggest motivations in this unit was receiving feedback from the lecturer. From the one-to-one appointments, I got to know my progress, what I could have done better, etc. Besides, I always email him to clarify my understanding of the homework questions, even on the weekend. If you have a specific topic that you are not clear with, you can always make an appointment with him and he will be more than happy to walk you through it.

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#### **Textbook:**

The textbook comes with a CD that contains textbook exercise answers and additional reading materials. New textbooks can only be purchased on the Institute website or second-hand on Amazon or the Student VIP website. Some students are lucky enough to download PDF versions online and print them at Officeworks. The PDF version is as clear as the original textbook, however, you will not have access to the CD materials. The best and only way to score well/get exemption for these units is to read the textbook. Although the slides make good summary of the textbook content, you would not be able to link the points together without reading the textbook.

You will definitely need to get started before week one. The textbook is the first step to start, it is easy to read but make sure you understand the content. I recommend you spend enough time with the text so that you can see how to apply the topics to real-world scenarios. It also helps to attempt end-of-chapter exercises. The key is to ask yourself, 'so what?'.

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**Study Partner:**

Find yourself a study partner in the class, exchange and mark each other's homework weekly. Make sure you both are strict in marking and ask each other for feedback, this is the most effective learning way in this unit.

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# ETC4120

## Actuarial Practice II

**Difficulty:** ■■■■□

**Year Completed:** Semester 2, 2016

**Prerequisite:** Requires Head of Department's approval prior to enrolment. Recommended to do ETC4110 prior to ETC4120

**Exemption:** Part IIA The Actuarial Control Cycle

Note: Exemption from Part II requires a 70% aggregate mark from ETC4110, ETC4120 and ETC4130.

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**Subject Content:**

ETC4120 expands and adds to topics covered in ETC4110. You will study how to apply the process of product design, choose the right models for a variety of clients, learn different approaches to valuation of liabilities, product pricing and contracts, study solvency and look at profit and cost reporting as well as how to monitor and assess experience. The course will rely heavily on Part I subjects.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Partial – Only some lectures

**Textbook(s):**

"Understanding Actuarial Management: the actuarial control cycle", Institute of Actuaries of Australia, 2010, Second Edition. Authors: Clare Bellis, Richard Lyon, Stuart Klugman and John Shepherd.

**Assessments:**

Assignments:	1 x 12% and 1 x 15%
Presentation:	5%
In-Class Test:	3%
Participation:	5%
3-Hour Final Exam:	60%

# ETC4120

## Comments

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### General Overview:

I found ETC4120 useful because the learning materials and teaching style prepared me for the transition to the workplace. We are trained to think critically by considering a wide range of perspectives.

In sum, practice writing in English every day, even if English is your first language. Follow the weekly instruction to complete weekly tasks. Always question if you are not sure (don't assume). The lecturer is always there to help, make sure you ask (in a sensible way).

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### Weekly Tasks:

(i) Weekly readings (normally 1 chapter from the textbook, additional materials if there is any on Moodle, revision of last week tutorial and homework)

(ii) Complete weekly homework (short answer and essay style question without word limit) which is required to be uploaded onto Moodle.

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### Class Participation:

You will not get a mark by showing up in the lecture/tutorial, instead, you have to ask/answer questions to gain the mark. You don't have to crack your head to think of smart question/answer, as long as they are sensible.

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### Assessments:

#### Assignments:

Assignments help you revise the learning materials, you need to organise the ideas and present them in an appropriate way. There is no right or wrong answer. However, you need to think out of the box by showing you have truly understood the learning materials to score well.

#### Class test:

It normally takes 10 - 15 minutes and worth 1% each. As long as you have been following the weekly instruction to complete your weekly tasks, and understand the content, you will be fine. The test is meant to test your understanding and train your writing skills under exam condition.

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#### Final exam:

A 3-hour exam with a total of 100 marks (no hurdle requirement). It has both short answer (between 1% - 5%) and essay style (up to 15% - 20%) questions. Please note that ALL of the lecture slides are examinable. The exam focuses on your understanding and application of the textbook and lecture slide contents regarding practical issues. Past exams may/may not be provided by the lecturer; the question style is similar to the past exam.

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#### **Consultation and Feedback:**

One of my biggest motivations in this unit was receiving feedback from the lecturer. From the one-to-one appointments, I got to know my progress, what I could have done better, etc. Besides, I always email him to clarify my understanding of the homework questions, even on the weekend. If you have a specific topic that you are not clear with, you can always make an appointment with him and he will be more than happy to walk you through it.

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#### **Textbook:**

The textbook comes with a CD that contains textbook exercise answers and additional reading materials. New textbooks can only be purchased on the Institute website or second-hand on Amazon or the Student VIP website. Some students are lucky enough to download PDF versions online and print them at Officeworks. The PDF version is as clear as the original textbook, however, you will not have access to the CD materials. The best and only way to score well/get exemption for these units is to read the textbook. Although the slides make good summary of the textbook content, you would not be able to link the points together without reading the textbook.

You will definitely need to get started before week one. The textbook is the first step to start, it is easy to read but make sure you understand the content. I recommend you spend enough time with the text so that you can see how to apply the topics to real-world scenarios. It also helps to attempt end-of-chapter exercises. The key is to ask yourself, 'so what?'.

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**Study Partner:**

Find yourself a study partner in the class, exchange and mark each other's homework weekly. Make sure you both are strict in marking and ask each other for feedback, this is the most effective learning way in this unit.

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# ETC4130

## Asset Liability Management

**Difficulty:** ■ ■ ■ ■ ■

**Year Completed:** Semester 2, 2016

**Prerequisite:** ETC4110

**Exemption:** Part IIB Investment and Asset Modelling

This unit is worth 33.33% of the complete Part II exemptions and is paired with ETC4110 Actuarial Practice I and ETC4120 Actuarial Practice II. You will need to get an average of 70% among the three units to get an exemption for Part III.

**Subject Content:**

This course assumes that students completed all Part I subjects. This is not a requirement, but is highly advantageous. You will need to have at least sat CT1, CT2, CT5 and CT8. It introduces asset-liability management and covers the objectives of Part IIB – Investment and Asset Modelling: the characteristics, behaviours and valuations of major asset classes; modelling assets; setting an investment strategy; and major economic investment theories and their limitations. The course aims to revise all knowledge related to asset-liability management and facilitate your ability to use their applications in practice as an actuary. Part I material is used extensively in this class. BFC2340 (CT1 subject) is covered in a single week.

**Lecture(s) and Tutorial(s):**

A 3-hour session broken into:  
One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

None

**Textbook(s):**

Investments, Bodie, Kane, Marcus 10th Edition  
Investment Principles for Actuaries, Fitzherbert, 2008. (optional)

**Assessments:**

10-minute Quizzes:	2 x 1%
Individual Assignments:	1 x 12% and 1 x 20%
Participation:	6%
3-Hour Final Exam:	60%

# ETC4130

## Comments

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### General Overview:

In my opinion, ETC4130 and the other Part II subjects are harder than the Part I subjects, but they are very useful in preparing you for a career as an actuary. Later when you go to a job interview, you may find the interview questions similar to the topics you discussed in class. The lecturer is a bit tough, but he is helpful, and his method is very useful in improving student's results.

To be successful in this course, I highly recommend you truly dive into the course from week 0 (yes, I mean week 0) and you should try to show your involvement in the course to the lecturer.

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### Weekly Tasks:

1. Pre-reading the related chapters in the textbook for next week (around 100 pages per week)
2. Making notes and thinking about what was discussed in class
3. Doing homework for this week
4. Review the solution from previous homework and tutorials and
5. Practice writing everyday (especially if you are an international student). It will be too late if you wait until SWOTVAC to start revising everything, or even a few weeks before the SWOTVAC.

To be honest, it's hard to complete all these tasks each week, especially if you are also enrolling in other part II subject like Actuarial Practice as it means your workload is double. But please keep in mind that no excuse will be accepted by the lecturer for not reading the required chapters or doing your homework. If your time is limited, at minimum you should go through the lecture slides before class and try to figure out the points you don't understand. Never forget to do the weekly homework as it's counted towards your 6% participation mark.

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**Class Participation:**

Active contribution? It means contributing your idea voluntarily in class and answering any question that the lecturer gives to you. Wrong answers are not punished, but students are not allowed to say, "I don't know" as it proves that you are lazy and unprepared for the class.

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**Assessments:**

You are given 4 weeks to finish each assignment. It's a bad idea to wait until a few days before the deadline. The questions are quite general and there is no unique right answer. In my opinion, the difficulty stems from determining your approach. To do so, you need to clarify who the audience of the report is and what information they want to get from the report. Apart from interesting content, you need to make your report professional to earn more credit. Things such as graphs and tables must be consistent and designed for easy understanding, etc. Some common mistakes are: 1) Content is not appropriate to the audience; 2) Using jargon without definition but your audience is not technically minded (e.g. IT guys, customers); 3) Trying to put everything into the report. 4) Not following the name convention.

For the final exam, you need to revise the lecture slides and additional material (examinable) at least twice (very important), the textbook (the main points only as you just have a week), and redo the tutorial questions and homework. It may vary, but in my exam, each question was comprised of a few small parts, often asking for a definition, so don't ignore the small topics. You may ask the lecturer to provide previous exam questions for practice.

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**Textbook:**

The prescribed text is pretty thick (i.e. around 1,000 pages) and will be covered in 12 weeks, so make sure you spend sufficient time to go through it during the course. One thing to keep in mind is that the book covers investments from an investment practitioner's perspective while students need to cover how an actuary thinks about the wider issue of why the assets are suitable. The textbook is US based. Students don't need to learn the specifics of that market and will concentrate on the general principles.

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# **5000** **Level Units**

# ECF5923

## Macroeconomics and Monetary Policy

**Difficulty:** ■ ■ □ □ □

**Year Completed:** Semester 1, 2018

**Prerequisite:** None

**Exemption:** CT7 Business Economics

This unit is worth 50% of the CT7 exemption and is paired with ETC5927 Managerial Economics. You will need to get an average of 70% between the two units and not less than a 60% in either.

**Subject Content:**

The course can be separated into two main parts.

Before the mid-term (concepts taught up to the mid-term are not examinable in the final exam): Key concepts covered include money as a unit of exchange, interest rates, bond and stock markets, demand drivers of assets, the efficient market hypothesis and the theory of rational expectations, as well as the central bank and monetary policy.

After the mid-term: The unit goes on to focus more generally on the broad economic picture. It discusses the IS curve, aggregate demand and supply, Keynesian vs Quantity Theory of Money as well as Expectations and Monetary Policy.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture

One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

The Economics of Money, Banking and Financial Markets by Frederic S Mishkin, 11th Edition

**Assessments:**

2 Group Assignment:	5%
Mid Terms:	30%
Reflection Essay	5%
2-Hour Final Exam:	60%

# ECF5923

## Comments

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### General Overview:

The course is not difficult to grasp in comparison to other actuarial units, but work is still required in order to get a good grade. The course material itself is interesting on its own to keep you engaged throughout the whole semester. Materials taught have important applications in the real world. A very engaging and enjoyable unit overall.

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### Lectures:

Full lecture recordings are available on Moodle, but it is highly recommended to attend the lectures. The lecturer was very informative and engaged the class regularly. This was one of the most interesting lectures to attend in the semester.

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### Tutorials:

Tutorials questions are based off the textbook – it is essential to prepare them in advance before attending the tutorial as the tutor would ask every student different questions. Questions would sometimes be asked in an indirect way, different from the textbook, to demonstrate your understanding of the material.

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### Assessments:

#### Assignments:

2 assignments (2.5% each) to be submitted at a tutorial of your choosing. Each assignment would be provided with feedback – the feedback provided on each assignment is valuable, so you might want to reserve 1 assignment to be submitted after the mid-term exam, where the course content becomes more difficult and important.

#### Reflective Essay:

A 500-word reflection essay would be required after the mid-term test, but this assignment shouldn't pose anyone much trouble.

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**Exams**

Exam only covers the material taught after the mid-term exam. You should try to read the textbook and attempt to understand and link the concepts together. Past exam papers may help you prepare but are not essential. Exam questions test students' ability to demonstrate how different concepts taught affect one another.

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**Concluding Remarks**

Understand the concepts in detail and read the textbook. This unit itself is interesting enough to keep you engaged, hence it is one of the more enjoyable ones you can undertake.

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# ECF5927

## Managerial Economics

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**Difficulty:** ■■■□□

**Year Completed:** Semester 1, 2016

**Prerequisite:** ECF1100

**Exemption:** CT7 Business Economics

This unit is worth 50% of the CT7 exemption and is paired with ETC5923. You will need to get an average of 70% between the two units and not less than a 60% in either.

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**Subject Content:**

This unit introduced students to economics used by management to make decisions. The main focus of the course was on demand and supply. Topics such as economic optimization, competitive markets, monopolistic competition & oligopoly, game theory & competitive strategy, and uncertainty were analysed. There was a lot of professional vocabulary to learn along with definitions and theories such as economic profit, marginal cost, short-run and monopoly profit theory. Much emphasis is placed on constructing graphs to represent the concepts covered in the lecture.

**Lecture(s) and Tutorial(s):**

One 2-hour lecture  
One 1-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Managerial Economics, 14th Edition, Mark Hirschey and Eric Bentzen.

**Assessments:**

Tutorial Participation:	10%
In-Class Test:	30%
2-Hour Final Exam:	60%

# ECF5927

## Comments

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### General Overview:

Overall, this unit was not difficult and does not demand a large amount of time to study for. Supply and demand curves and other related graphs may take a bit of getting used to. Revising how each is constructed and understanding the difference between shifts and movements along each curve is crucial.

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### Tutorials:

Attending tutorials is important, there are 10 marks available for doing so. Prior to each tutorial, read the relevant chapter from the prescribed textbook and prepare written answers to the questions.

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### Assessments:

The mid-term was multiple-choice and was held during the week 7 lecture. It was easy after revising the material that had been covered in the lectures during the first 5 weeks of the semester and tutorials during the first 6 weeks of the semester. Sample questions and solutions were uploaded to Moodle in week 5, go over these. The outline and structure was also provided during the lecture in week 5.

Sample questions and solutions were uploaded to Moodle in week 12. It is useful to go over these during SWOTVAC. The two hours is enough to complete the exam if proper revision was undertaken. The outline and structure were also provided during the week 12 lecture. The exam is a mix of short and long answer questions. Again, revision is the key to earning high marks and finishing on time. Along with understanding concepts, be sure to review how to draw graphs, including correctly labelling axis.

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### Textbook:

This text book was useful because the content in the lecture slides is not thorough enough. The text is also easy to understand.

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# ETC5242

## Statistical Thinking

**Difficulty:** ■■■□□

**Year Completed:** Semester 2, 2016

**Prerequisite:** None

**Exemption:** CT6 Statistical Methods.

This unit is worth 50% of the CT6 exemption and is paired with ETC5342 (Applied Insurance Methods). You will need to get an average of 70% between the two units and not less than a 60% in either.

**Subject Content:**

This course covers a wide range of statistical methods and critical thinking. The overall aim of the class is to teach students to think statistically. Weeks 1–2 covers simulation of games for decision strategies (the zero-sum game). In weeks 3–4 many statistical distributions are covered. Weeks 5–8 discusses bootstrapping, permutation and linear models. Weeks 9–10 introduces multilevel modelling and compiling data for problem solving. Weeks 11 and 12 are about Bayesian reasoning and time series.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Partial – Only some lectures

**Textbook(s):**

Introductory Statistics with Randomization and Simulation, 1st edition, David M Diez, Christopher D Barr, Mine Cetinkaya-Rundel.

Subject CT6 Statistical Methods Core Technical. IFoA.

**Assessments:**

Weekly Class Exercises:	5%
Weekly Group Labs:	15%
Group Project/Presentation:	10%
3-Hour Final Exam:	70%

# ETC5242

## Comments

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### General Overview:

This unit tries to cover a large range of statistical methods. This means that each topic is just touched on and not covered in any deep or rigorous way. Much of the material, such as simple linear modelling and model fitting, has been covered in other courses. If you have sat ETC2410 (Introductory Econometrics) previously, the overall difficulty of this unit will not be too great.

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### Tutorials:

The tutorial is where the difficulty in the course mainly stems from. Getting used to R is not an easy process and the tutorials are not set up to really teach you how to code. I have tried to take some basic internet classes and refer to books about this software, but it didn't work. The only thing that I recommend you to do is to go to as many consultations as you can. Trust me! Every minute you spend in consultation is worth more than 10 minutes spent in the tutorial.

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### Assessments:

The weekly in-class quizzes are all basic questions mentioned in the lectures. So, make sure you review the lecture and work through every question mentioned in the slides. This will help you gain the full 5 marks.

There's no mid-semester exam and the final exam is open book and not difficult. The course was new this year so there were no past papers to refer to. However, Di did provide students with an exam-like sample paper which contained similar questions found on the final. The final exam has a large number of questions, each worth very few marks. I spent the entire 3 hours writing my answers without resting my hand.

The project assignment was about modelling houses price. Almost every topic we learned in the first 9 weeks was used in this project. Quite a lot of students used the random forest model,

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which was not mentioned in class, to get a better fitting model. Those groups got better rankings, yet the other groups were not penalised since the method was not covered in class. I strongly suggest that you finish modelling by the end of the semester break and get down to the report and presentation preparation as soon as possible.

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**Textbook:**

I never read the text book. All I referenced were the lecture slides.

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# ETC5342

## Applied Insurance Methods

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**Difficulty:** ■ ■ ■ ■ ■

**Year Completed:** Semester 2, 2016

**Prerequisite:** ETC5242

**Exemption:** CT6 Statistical Methods.

This subject makes up 50% of CT6, the other 50% is from unit ETC5242

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**Subject Content:**

Within the CT6 materials, there are 12 topics, the unit covers 6 of them. Even though it is only half of the material, it is still quite a difficult unit for many. The material covered followed the Core Reading very closely: Loss distribution, risk models, ruin theory, run-off triangles, and generalised linear models. Each topic was covered over a two-week period with an assessment at the end of each topic.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour computer lab

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None. The CT6 materials was handy but Dan stressed in the lecture to follow her materials strictly as the final exam will be based on her lecture materials. The examples from the lecture slides are from the CT6 materials, so it is not necessary to purchase the CT6 materials.

**Assessments:**

In-Tutorial Tests:	6 x 5%
3-Hour Final Exam:	70%

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# ETC5342

## Comments

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### General Overview:

This unit is one of the hardest units that I have studied so far, however I enjoyed it immensely. The reason for this was due to the effort put in by both the lecturer and tutors. The main feedback received from Dan after every test was that students overthink the questions and end up writing ridiculous answers that are amazing but ultimately wrong. Every week the lecturer gave us some advice on how to better understand what the question is asking and to work out problems slowly. We were allocated more than enough time to complete the test, so the advice did help.

The professor comes from a financial mathematics background and so her proofs are very mathematical and omit integration steps. The tutorials help tremendously as you are provided with an alternative way to solve the problem which Dan will accept. This really made the unit more bearable and easier to understand. With that being said, Dan tries her best to bring the class with her during the semester. She visibly takes it to heart when students underperform even when she provides hints. Although it is a difficult unit, Dan makes it interesting and makes a conscious effort to learn most, if not, all students' name in the lecture. Students need to be comfortable with ETC2520/ETC5252 – particularly MGF, PDF, PGF and CGF.

During lectures, it is best to actually pay attention as Dan drops many hints about the tests and the questions that will be asked. Failing to actively listen will lose students easy marks. As stated above, students need to be comfortable with ETC2520/ETC5252 material as this unit will extend upon those topics. Calculus is also very important and any student that is unable to perform integration by parts or substitution is going to have a difficult time.

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# ETC5346

## Financial Econometrics

**Difficulty:** ■■■■ □

**Year Completed:** Semester 1, 2016

**Prerequisite:** Students must be granted permission to undertake this unit to ensure an appropriate background in Finance and Econometrics

**Exemption:** CT8 Financial Economics

This unit is worth 50% of the CT8 exemption and is paired with ETC5351 Modelling in Finance and Insurance. You will need to get an average of 70% between the two units and not less than 60% in either.

**Subject Content:**

The unit is split into three main topics: Statistical Properties of Financial Time Series, Asset Pricing Models and Time Series Properties of Financial Data. Paul covers modelling returns, asset pricing, estimation and testing, and portfolio theory. Heather will cover volatility modelling, measures of risk, efficient market hypothesis, the autoregressive conditional heteroskedastic volatility model (ARCH), GARCH models, and asymmetric volatility models.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
Two 1hour tutorials

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None.

**Assessments:**

Homework Assignments:	2 x 10%
In-Class Quizzes:	2 x 10%
3-Hour Final Exam:	60%

# ETC5346

## Comments

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### General Overview:

I found this class one of the easier units as part of the postgraduate degree. The tutor was great, he tried his best to make sure everyone understood enough of each topic to get close to full marks for both the homework and quiz. Paul's research interest is in asset pricing models, because of this and his background in physics and mathematics, he asks many questions in the tutorial and exam where you are required to derive formulae.

Given that Paul also teaches Modelling in Finance, a banking and finance unit, he embraces Excel in all assessments, even the exam. So, it is important that all Excel formulas used in the tutorials and homework are understood as they may appear in the final exam.

The final 6 weeks lacked the same structure as the first, so you will really need to stay disciplined in your studies. That being said, Heather does a good job of guiding you to review the topics that will be examined.

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# ETC5351

## Modelling in Finance and Insurance

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**Difficulty:** ■■■■□

**Year Completed:** Semester 1, 2016

**Prerequisite:** ETC2520 or ETC2440

**Exemption:** CT8 Financial Economics

This unit is worth 50% of the CT8 exemption and is paired with ETC3460 Financial Econometrics. You will need to get an average of 70% between the two units and not less than 60% in either.

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**Subject Content:**

There are five main topics: probability, martingales, Brownian motion, stochastic differential equations and asset pricing. The first four topics are covered in much detail by Andrea, with a quick revision at the end of each topic. Topics build on previous material in the course. Fima covers the last section of the course and introduces options pricing, replicating portfolios, equivalent martingale measure, the fundamental theorems of asset pricing and models for interest rates.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

None. All references and required reading are materials prepared by Fima and Andrea which are uploaded onto Moodle. The notes online for reading and review are used in the lectures, but different examples are used in the lecture to complement our learning.

**Assessments:**

Assignments:	2 x 15%
Weekly Tutorial Participation:	10%
3-Hour Final Exam:	60%

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# ETC5351

## Comments

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### General Overview:

I found this class quite difficult as it was more focussed on mathematics than previous units. Although the unit can get quite tough, lecturers and tutors go out of their way to help students. Andrea was brilliant, he made the lectures bearable, interesting and made you want to learn. He understands that students struggle with the unit so be sure to seek help when you are struggling, the lecturers will make time for you.

For those students wanting to do well and learn further material, there is an optional master class for students where he will go into further detail regarding that week's topic. It is not examinable, but it can provide more context for content you may be struggling with.

All material covered in the course is provided on Moodle as notes. There is no need to purchase supplementary texts.

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### Assignments:

#### Assignments:

The two assignment questions were quite difficult, however as the deadline approaches, Andrea would provide tips in the lecture as to how to do the questions. There shouldn't be any problems with the assignments if you work hard, but it is very important to show all workings out as the tutors are given explicit instructions that certain workings out and notes must be made to get full marks.

#### Final Exam:

The exam was straightforward. It was a difficult exam however there were no surprises and revision advice was provided. A double sided A4 sheet of hand written notes can be brought in. The exam questions were similar in style to the assignment questions however they were simpler and could be done easily if you knew the material well due to the exam time constraint.

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# ETC5353

## Contingencies in Insurance and Pensions

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**Difficulty:** ■■■■□

**Year Completed:** Semester 2, 2016

**Prerequisite:** ACF2340, ETC2430\*  
or BFC2340

**Exemption:** CT5 Contingencies

This unit is worth 65% of the CT5 exemption and is paired with ETC2430 Actuarial Statistics. You will need to get an average of 70% between the two units and not less than a 60% in either.

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**Subject Content:**

This subject requires basic cash flow and time value of money knowledge, which is covered in ETC2430. For ETC5353, we need to use this to price all kinds of products and understand how to price a product. Weeks 1–4 review and build upon concepts from ETC2430. Weeks 5–7 focus on how to price a single life product. Actuarial notation and reserving is also covered over this period. Weeks 8–11 cover multiple life probabilities and how to price multiple life product. Week 12 was left for review and question time.

**Lecture(s) and Tutorial(s):**

Two 1-hour lectures  
One 1.5-hour tutorial

**Lecture Recording:**

Full – Audio and Video

**Textbook(s):**

Core Reading for Institute of Actuaries of UK Subject CT5 Contingencies IFoA  
Actuarial Mathematics for Life Contingent Risks. David C.M.Dickson, Hardy R. and Howard R. Waters.  
Acted actuarial notes for Life Contingent Risks. IFoA  
Formula and Tables for Actuarial Examinations. IoA.

**Assessments:**

50-Minute Mid-Term:	10%
Group Project:	30%
2-Hour Final Exam:	60%

# ETC5353

## Comments

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### General Overview:

I didn't take ETC2430 before ETC5353, so at first it was quite hard to understand cash flows and the many different types of interest rates. However, everything became easier as the course went along. I felt more and more comfortable with the notation as I caught up and the concepts also became easier as I studied more. Therefore, if you find it difficult at first, don't give up just put in a bit more study.

There are many small details to get caught up in, however, the course is all about application, so it is better to understand basic concepts and work from there. Don't worry if you can't catch every detail, the course covers a lot of material and broadly understanding ideas such as net reserve pricing instead of the mathematical proofs will get you far.

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### Tutorials:

The tutor will not have enough time to cover everything so be sure to go over the questions in your free time. For me, I did some in the semester and did the rest during SWOTVAC. The tutorials are really useful, and you should go to all of them. It is also useful to see different tutors as they will present different ways to solve the same problem. Furthermore, the content covered is different across tutors. The most important tutorial is the last one, because some tutors will explain how to study for the exam. They will not provide information on the exam itself, but instead help you review more efficiently.

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### Assessments:

In class practice and assessments are important. For students, these are like exam-style questions, so do these practice questions after each lecture by yourself. In class, Colin will teach you how to use the Formula and Tables for Actuarial Examinations, and you should listen carefully, because you will use these tables in the mid-term and final exam.

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One more thing is how to find practice question. I think the questions in the textbook (Actuarial Mathematics for Life Contingent Risk) are too difficult. The questions in the Acted notes are CT exam style questions, and questions in final are more flexible. However, the Acted notes are a really good tool to help you study, especially when you find it difficult to catch up in class. The slides follow the Acted material closely. However, they are less clear, therefore, the notes are very good to use when reviewing content.

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# Appendix

# List of Undergraduate Exemptions

For students commencing their studies in 2017.

Table 1: Institute core technical subjects and corresponding undergraduate university subjects

Institute Core Technical Subject			University Subject
Part I			
CT1	Financial Mathematics	<a href="#">BFC2340</a>	Debt Markets and Fixed Income Securities
CT2	Finance and Financial Reporting	<a href="#">ACC1100</a>	Introduction to Financial Accounting
		<a href="#">BFC1001</a>	Foundations of Finance
		<a href="#">BFC2140</a>	Corporate Finance 1
*CT3	Probability and Mathematical Statistics	<a href="#">ETC1000</a>	Business and Economic Statistics
		<a href="#">ETC2520</a>	Probability and Statistical Inference for Economics and Business
CT4	Models	<a href="#">ETC2430</a>	Actuarial Statistics
		<a href="#">ETC3430</a>	Financial Mathematics Under Uncertainty
CT5	Contingencies	<a href="#">ETC2430</a>	Actuarial Statistics
		<a href="#">ETC3530</a>	Contingencies in Insurance and Pensions
CT6	Statistical Methods	<a href="#">ETC2420</a>	Statistical Thinking
		<a href="#">ETC3420</a>	Applied Insurance Methods
CT7	Business Economics	<a href="#">ECC1000</a>	Principles of Microeconomics
		<a href="#">ECC1100</a>	Principles of Macroeconomics
CT8	Financial Economics	<a href="#">ETC3460</a>	Financial Econometrics
		<a href="#">ETC3510</a>	Modelling in Finance and Insurance
Part II			
IIA	The Actuarial Control Cycle	<a href="#">ETC4110</a>	Actuarial Practice I
		<a href="#">ETC4120</a>	Actuarial Practice II
IIB	Investment and Asset Modelling	<a href="#">ETC4130</a>	Asset Liability Management

\*these two units can be replaced with [MTH2222](#) and [MTH2232](#)

Source: Centre for Actuarial Studies and  
Monash Business School  
Current as of 30<sup>th</sup> November 2016

# List of Master's Exemptions

For students commencing their studies in 2017.

Table 2: Institute core technical subjects and corresponding postgraduate university subjects

Institute Core Technical Subject			University Subject
Part I			
CT1	Financial Mathematics	<a href="#">BFC2340</a>	Debt Markets and Fixed Income Securities
CT2	Finance and Financial Reporting	<a href="#">ACC1100</a>	Introduction to Financial Accounting
		<a href="#">BFC1001</a>	Foundations of Finance
		<a href="#">BFC2140</a>	Corporate Finance 1
CT3	Probability and Mathematical Statistics	<a href="#">ETC5252</a>	Probability and Statistical Inference for Economics and Business
CT4	Models	<a href="#">ETC2430</a>	Actuarial Statistics
		<a href="#">ETC5343</a>	Financial Mathematics Under Uncertainty
CT5	Contingencies	<a href="#">ETC2430</a>	Actuarial Statistics
		<a href="#">ETC5353</a>	Insurance and Pensions
CT6	Statistical Methods	<a href="#">ETC5242</a>	Statistical Thinking
		<a href="#">ETC5342</a>	Applied Insurance Methods
CT7	Business Economics	<a href="#">ECF5923</a>	Macroeconomics and Monetary Policy
CT8	Financial Economics	<a href="#">ECF5927</a>	Managerial Economics
		<a href="#">ETC5346</a>	Financial Econometrics
		<a href="#">ETC5351</a>	Modelling in Finance and Insurance
Part II			
IIA	The Actuarial Control Cycle	<a href="#">ETC4110</a>	Actuarial Practice I
		<a href="#">ETC4120</a>	Actuarial Practice II
IIB	Investment and Asset Modelling	<a href="#">ETC4130</a>	Asset Liability Management

Source: Centre for Actuarial Studies and  
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\*these two units can be replaced with [MTH2222](#) and [MTH2232](#)

Source: Centre for Actuarial Studies and  
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