ACST101 : TECHNIQUES AND ELEMENTS OF FINANCE

Teaching Staff Involved in the Unit

<table>
<thead>
<tr>
<th>Room</th>
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<td>(02) 9850 8568</td>
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David Westcott

Unit Prerequisites

There are no prerequisites or corequisites, however a background of HSC mathematics or equivalent numerical competency is desirable.

Unit Description and Objectives

Students will gain skills in the pricing of financial instruments in the Techniques section and knowledge of financial institutions, instruments and markets in the Elements section. ACST101 is a prerequisite for further study in the areas of actuarial studies and finance.

Techniques

The basic methods of financial mathematics (present value and accumulated value) are applied in valuing a range of financial transactions including the purchase of promissory notes, bank bills, bonds and debentures, the analysis of mortgage loans, personal loans and investment proposals.

Elements

The basic functions of the Australian financial system, the financial institutions (banks, insurance companies, finance companies, credit unions, etc.), the financial instruments (bills, bonds, debentures, shares, etc.) and the financial markets are discussed.

Assessment

<table>
<thead>
<tr>
<th>Weekly Assignments (11)</th>
<th>10%</th>
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<tbody>
<tr>
<td>Class Tests (3)</td>
<td>20%</td>
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<tr>
<td>Final Examination</td>
<td>70%</td>
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Weekly Assignments

To pass the unit a satisfactory attempt is required to at least eight assignments.

There are 11 weekly assignments, each based upon a "techniques" topic. For each assignment you will use the website to obtain the questions and to enter your answers.
A preliminary set of Maths Revision Exercises will give you practice in the types of algebraic operations required for ACST101. This is important if you are unsure about your maths or haven't done any maths for a long time. Each revision exercise is preceded by a worked solution of a similar type problem.

Class Tests

There are three class tests scheduled in Weeks 5, 8 and 12.

Final Examination

To pass this unit a satisfactory performance is required in the final examination.

The final examination will be a three-hour written paper with ten minutes reading time.

Part A: Forty-five multiple choice questions - twenty-two based on "techniques" and twenty-three based on "elements". Marked out of 45.

Part B: Three questions requiring application of "techniques" to the solution of practical problems. Marked out of 30.

A list of basic formulae will be supplied.

Textbooks

The textbooks which are available as a package from the Macquarie University Co-op Bookshop are:


Calculators

Calculators will be allowed in the class tests and the final examination but a clear indication of the steps involved in every calculation must be shown.

Calculators that have a text-retrieval capacity are not allowed.
Calculators that have a full alphabet on the keyboard are not allowed.

You will need a calculator which has xy or ^, 1/x and log or ln functions, and a memory.

Lectures

Students attend one techniques lecture and one elements lecture each week.

Tutorials

Tutorial attendance is compulsory. Students must attend and fully participate in at least 9 tutorials, otherwise they may be excluded from the unit.

Tutorial exercises will be provided at each tutorial so that you can practise applying the results developed in lectures.
Learning Strategy

It is essential that you work steadily and consistently over the whole semester; in particular attend tutorials and keep up with the weekly assignments. It is extremely difficult to catch up if you fall behind. Each topic builds on the previous one.

Understanding of the concepts is required rather than memorisation of formulae. Success in this unit requires logical thinking, reasoning and problem solving skills.

The Academic Senate of the University has set the average workload as three hours total work per credit point per week. (ie 9 hours per week for ACST101). Total work includes time for private study and reading as well as attending classes and performing set tasks.

Techniques Topics and Textbook References

Textbook


<table>
<thead>
<tr>
<th>Week</th>
<th>Techniques Topic</th>
<th>Textbook Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simple Interest and Simple Discount</td>
<td>Chapter 1 (exclude 1.4 and 1.5)</td>
</tr>
<tr>
<td>2</td>
<td>Compound Interest</td>
<td>Chapter 2, 2.1 to 2.3 (exclude 2.4)</td>
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<tr>
<td>3</td>
<td>Compound Interest, Logarithms and Linear Interpolation</td>
<td>Chapter 2, 2.5 to 2.8 Appendices A &amp; C</td>
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<tr>
<td>4</td>
<td>Valuation of Annuities</td>
<td>Chapter 3, 3.1 to 3.3 Chapter 4, Section 4.2</td>
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<tr>
<td>5</td>
<td>Valuation of Annuities</td>
<td>Chapter 3, 3.4 to 3.7 Chapter 4, 4.3 and 4.5</td>
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<tr>
<td>6</td>
<td>Valuation of Annuities</td>
<td>Chapter 4, Section 4.4 Chapter 5 (exclude 5.4)</td>
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<tr>
<td>7</td>
<td>Mortgage Loans</td>
<td>Chapter 6, 6.1 to 6.4</td>
</tr>
<tr>
<td>8</td>
<td>Flat Rate Loans</td>
<td>Chapter 6, Section 6.6 (exclude Rule of 78)</td>
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<tr>
<td></td>
<td>Net Present Value and Internal Rate of Return</td>
<td>Chapter 8, 8.1 and 8.2</td>
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<tr>
<td>9</td>
<td>Bonds and Debentures</td>
<td>Chapter 7, 7.1 to 7.4</td>
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<td>10</td>
<td>Tax on Bonds</td>
<td>Chapter 7, 7.5 and 7.7</td>
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<tr>
<td>11</td>
<td>Varying Annuities</td>
<td>Chapter 4, Section 4.6</td>
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<tr>
<td>12</td>
<td>Sinking Funds and Capitalised Costs</td>
<td>Sections 6.5, 7.8 and 8.3</td>
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Elements Topics and Textbook References

Textbook


References


In addition the *Reserve Bank of Australia Bulletin* contains articles of current interest and statistical information. The "elements" tutorial exercises will contain a link to the RBA website which contains much of this information.

Topics and Recommended Reading from Textbook

**Topic 1**  Overview of the Financial System

Week 2  Chapter 1 (exclude 1.7)

**Topic 2**  Banks and RBA

Week 3  Chapter 2 (2.1 to 2.5)
Week 4  Chapter 2 (2.6)

**Topic 3**  Non-Bank Institutions

Week 6  Chapter 3 (3.1, 3.3 to 3.5))
Week 7  Chapter 3 (3.2, 3.6 to 3.9) (exclude 3.10)

**Topic 4**  Government Finances and Instruments

Week 9  Chapter 12

**Topic 5**  Corporate Finances and Instruments

Week 10  Chapter 5 (5.4, 5.6 only), 9 (9.4, 9.6, 9.7 only) and 10 (10.4, 10.6 only)

**Topic 6**  Financial Markets

Week 11  Chapter 18