# Module Descriptor Form

## Civil and Environmental Engineering

**EF929 - Financial Engineering**

| Module Code | EF929 | Module Title | Financial Engineering | | | | |
|---|---|---|---|---|---|---|---|
| Module Registrar | Knapp, Dr Charles W | | | | | | |
| Other Staff Involved | | | | | | | |
| Credit Weighting | 10 | Semester | 2 | Elective | No | Academic Level | 5 |
| Pre-requisites | | | | | | | |
| Required for | | | | | | | |

### Module Format and Delivery (hours):

| Lectures | Tutorials | Assignments | Labs | Private Study | Total |
|---|---|---|---|---|---|
| 10 | 10 | 30 | 0 | 50 | 100 |

### Educational Aim

*This module aims to:*

explore the role finance plays in business solvency and sustainability. It will give participants an appreciation of the core issues surrounding finance in business and organisations, and how to analyse financial data to support decision making.

1. explain the need for and role of finance in business
2. describe the financial tools that are used for making decisions
3. explore different strategies for raising finance and investing.

The material will be delivered through a series of online lectures, supported by background reading available on Myplace.

### Syllabus

*This module will teach the following:*

1. Money and the role of finance within an organisation
2. Structure of a business and corporate governance
3. Financial reporting tools: the three statements
4. Debt financing and the time value of money
5. The stock market
6. Depreciation and amortisation
7. Capital structure and asset valuation
8. Investment decisions and portfolio theory
9. Project financing and private finance initiative
10. Corporate restructuring, mergers and acquisitions

## Learning Outcomes

*On Completion of the module, the student is expected to be able to:*

| | |
|---|---|
| LO: 1 | identify and analyse issues arising from the financial accounts and reports of companies and/or organisations; |
| LO: 2 | identify sources and methods of raising project finance and implications of these for business and financial risk; |
| LO: 3 | analyse the principles underlying operation of financial/ capital markets; and |
| LO: 4 | be able to apply knowledge required to make investment decisions. |

*(UK SPEC suggests no more than 4 learning outcomes per module. Statements must be broad and be syllabus free and link in with the intended learning outcomes on the programme specifications.)*

## Assessment of Learning Outcomes - Criteria

Learning Outcome: **1**

| | **Criteria** |
|---|---|
| 1 | Use data from corporate accounts to assess financial performance and present reasons for the success/failure of organisations |
| 2 | Compare financial informaiton acroess similar organisation using recognised financial tools and equations in order to assess performance |

Learning Outcome: **2**

| | **Criteria** |
|---|---|
| 1 | show knowledge of the different sources of finance available to businesses |
| 2 | demonstrate knowledge of the advantages and disadvantages of different financing routes |

Learning Outcome: **3**

| | **Criteria** |
|---|---|
| 1 | show knowledge of the different sources of finance available to businesses |
| 2 | describe the principles of the stock market |

Learning Outcome: **4**

| | **Criteria** |
|---|---|
| 1 | apply asset valuation tools used to make investment decisions |
| 2 | demonstrate understanding of the relationship between risk and return |

### Assessment Method(s) Including Percentage Breakdown and Duration of Exams

To Pass the module, students need to gain a summative mark of: 50%

| Description | Semester | Start Week | Duration | Weight | Submission Week | Linked Criteria |
|---|---|---|---|---|---|---|
| financial assessment | 2 | 1 | | 50% | 6 | LO 1: C1, C2<br>LO 2: C1, C2<br>LO 3: C1, C2<br>LO 4: C1, C2 |
| final examination. Closed Book | 2 | | 2.00 | 50% | E | LO 1: C1, C2<br>LO 2: C1, C2<br>LO 3: C1, C2<br>LO 4: C1, C2 |

### Principles of Assessment Feedback

Assessment will be 50% group coursework, with written feedback provided through assessment feedback sheets. The remaining 50% of the assessment will be by a multiple-choice exam at the end of the class, where a summative mark will be provided.

When completing the group coursework, students will be required to provide a peer assessment within their group and provide a statement on their contribution to the group coursework. Marks may be adjusted down for students who did not engage and contribute to group activities sufficiently.

### Additional Information

n/a

### Resit Procedure

Resits will be 100% exam during the next resit examination opportunity.

### Recommended Reading

Atrill P, McLaney EJ (2019) Accounting and finance for non-specialists. 11th ed. Pearson, Harlow, England, NY.

Duhon TS, Marshall CM (eds) (2011) Financial engineering: the evolution of a profession. The Robert W Kolb series in Finance, Wiley, Hoboken NJ.

Finnery JD (2007) Project financing: asset-based financial engineering, 2nd ed. Wiley Finance Series. John Wiley & Sons, Hoboken NJ.

Solomon J (2007) Corporate governance and accountability. West Sussex, John Wiley & Sons, Hoboken NJ

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## Module Timetable

| Week | Semester 1 | Semester 2 |
|---|---|---|
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | Submission 50% |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| E | | Examination 50% |

## Date of Last Modification

22-08-2025