

# IB009-12 Advanced Mathematics

**20/21**

**Department**

Warwick Business School

**Level**

Foundation

**Module leader**

Katy Hoad

**Credit value**

12

**Module duration**

10 weeks

**Assessment**

10% coursework, 90% exam

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

N/A.

[Module web page](#)

### Module aims

To equip students with the mathematical and statistical knowledge and skills necessary for successful subsequent degree-level study in Accounting and Finance.

To develop in students a critical awareness of the power of mathematical tools for modelling the key characteristics of business situations, and an appreciation of both their scope and limitations. To equip students with the skills to interpret, report and critically appraise mathematical information.

To encourage students to take responsibility for their own learning, and to evaluate their own development.

Specific aims of the mathematics component of the module are:

1. To equip students with the mathematical foundations for successful completion of a WBS Accounting and Finance degree.
2. To develop in students the ability to apply logical reasoning to the solution of structured problems, to recognise incorrect reasoning and to generalise arguments.

## Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The module will cover the more advanced techniques involved in:

1. Algebra
2. Functions and Graphs
3. Calculus
4. Matrices
5. Numerical Methods
6. Series expansions
7. Interpreting and reporting mathematical information (running through the term)

## Learning outcomes

By the end of the module, students should be able to:

- Solve mathematical problems using reasonably advanced mathematical techniques such as Matrices, implicit differentiation, and Maclaurin Taylor series expansions.
- To understand how to express logical quantitative arguments and think logically.

## Indicative reading list

Barnett R, Ziegler M & Byleen K (2011) College Maths for Business, Economics, Life Sciences and Social Sciences (12th ed., Pearson).

Croft A & Davison R (2010) Foundation Maths (5th ed., Pearson).

Lial M, Hungerford T & Halcomb J (2013) Mathematics with Applications (10th ed., Pearson).

## Subject specific skills

Be able to carry out and understand various mathematical techniques at AS and A-level.

## Transferable skills

analytical skills communications skills confidence in mathematical and quantitative subjects  
problem solving time management independent working

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## Study

## Study time

<b>Type</b>	<b>Required</b>
Lectures	40 sessions of 1 hour (33%)
Private study	32 hours (27%)
Assessment	48 hours (40%)
Total	120 hours

### **Private study description**

Private Study.

### **Costs**

No further costs have been identified for this module.

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### **Assessment**

You do not need to pass all assessment components to pass the module.

#### **Assessment group D1**

	<b>Weighting</b>	<b>Study time</b>
Class Test (12 CATS)	10%	5 hours
Online Examination	90%	43 hours

- Answerbook Pink (12 page)
- Students may use a calculator
- Graph paper

#### **Feedback on assessment**

Feedback will be given throughout within classes via in class work. Structured exercises will be used to allow students to practice the techniques - these will be provided with full solutions so students can learn from the solutions as well as seeing how well they are understanding the material. Students will also be directed towards self-assessment exercises for further practice outside of formal contact hours - these will also have full solutions so students can learn from the solutions as well as seeing how well they are understanding the material. Full feedback will be given on the class test part way through the term to allow students to see how on-track they are. Full feedback will be given on the exam.

[Past exam papers for IB009](#)

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### **Availability**

## **Courses**

This module is Core for:

- Year 1 of UIBA-N4N4 Undergraduate Accounting and Finance (with Foundation Year)

This module is Core optional for:

- UIBA-N20A Undergraduate Management (with Foundation Year)
  - Year 1 of N20A Management (with Foundation Year)
  - Year 1 of N23A Management with Finance (with Foundation Year)
  - Year 1 of N25A Management with Marketing (with Foundation Year)