

# IB2D4-15 Programming for Business Application

**26/27**

**Department**

Warwick Business School

**Level**

Undergraduate Level 2

**Module leader**

Richard White

**Credit value**

15

**Module duration**

10 weeks

**Assessment**

Multiple

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

Programming is a key dimension of digital literacy, a core skill in today's digital economy. Besides hiring programmers with software engineering and computer science backgrounds, employers across industries increasingly desire a pool of business graduates that have fundamental knowledge of programming for business application. This particularly stems from an ever-growing interest in business data analytics (given the volume of data organisations must process for better and timely managerial decision making) and business service digitalisation (given the extent to which new services are being offered online, via apps and web portals), and consequently the increasing extent to which future managers will need to work with software developers if not assuming both roles concurrently. This module aims to provide business students with such knowledge.

This is an elective module available for WBS and non-WBS students\*. To find detailed availability and to apply for this module, log in to [my.wbs.ac.uk](http://my.wbs.ac.uk) using your normal IT login details and apply via the my.wbs module application system. Once you've secured a place on my.wbs you should apply via your home department's usual process, which usually takes place via eVision.

Note that you do not require the module leader's permission to study a WBS module, so please do not contact them to request it.

\*Please note that Computer Science students not on a Computer Science with Business Studies Joint Honours course are unable to take this module due to content covered on other Computing modules.

[Module web page](#)

## Module aims

Students will learn about the critical role of programming in solving business problems and explore the diversity of programming solutions and approaches. They will learn key programming concepts and practice creating scripts (hands on coding) to solve small business tasks using a programming language (e.g. Python). Further, the module will provide a brief overview of software development management methods (Agile, Waterfall etc.) which will enable business students to collaborate effectively with technical teams in business environments.

## 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.

Introduction to programming in a business landscape.

Exploring types of programming solutions/languages/tools available - limitations, strengths and example application areas.

Fundamental programming concepts - data types, control structures, functions, introduction to object oriented programming (OOP), data import-export etc.

Understand and use state-of-the-art libraries for data analysis and visualization.

Building basic programming solution (scripts/code) to solve a small business tasks/problem.

Software development project issues and project management solutions (e.g., Agile/Scrum, DevOps).

Use of AI for developing code snippets.

## Learning outcomes

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

- Understanding the role programming plays in a business landscape
- Develop know how about various types of programming solutions/Language/tools available - limitation, strength and example application areas
- Demonstrate an overview of software engineering principles
- Demonstrate and apply basic programming concepts - data wrangling, data manipulation, control structures, import-export data, data types and structures, functions, introduction to Programming libraries
- Capability to understand a business problem/task

- Design a programming logic and create/refine an automated code driven solutions to the problem
- Evaluating and critiquing different programming approaches in problem solving

## Indicative reading list

[Reading lists can be found in Talis](#)

## Subject specific skills

Develop Python scripts to solve a business problem/task using data.

Employ state-of-the-art technical tools used for programming/coding (including AI tools).

Apply logical problem solving skills.

## Transferable skills

Develop knowhow about various types of programming applications available for business solutions.

Individually design and implement code in Python to automate/ solve small business tasks using programming.

## Study

### Study time

Type	Required
Lectures	10 sessions of 1 hour (7%)
Seminars	9 sessions of 1 hour (6%)
Online learning (independent)	10 sessions of 1 hour (7%)
Private study	49 hours (33%)
Assessment	72 hours (48%)
Total	150 hours

### Private study description

Independent Learning

### Costs

Category	Description	Funded by	Cost to student
IT and software	Individual Laptops (BYOD - Bring your own device). Students are required to bring their own laptop and there are no specific software requirements, as long as the laptop/device has a web browser application installed on it (such as Google Chrome or others). All the exercises will be practices using Google Colab, so only web browser is required to engage with module content.	Student	

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## Assessment

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

### Assessment group A4

	Weighting	Study time	Eligible for self-certification
Individual Assignment	90%	65 hours	Yes (extension)
Individual programming project (3000 words equivalent, to incorporate a mix of words and coding).			
Participation	10%	7 hours	No

### Assessment group R4

	Weighting	Study time	Eligible for self-certification
Individual Assignment	100%		Yes (extension)

## Feedback on assessment

In class and on my.wbs

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## Availability

### Pre-requisites

Please note that Computer Science students not on a Computer Science with Business Studies Joint Honours course are unable to take this module due to content covered on other Computing modules.

## Courses

This module is Optional for:

- Year 2 of UIBA-NN02 BSc International Management with Marketing
- Year 2 of UIBA-NN01 BSc Management with Marketing
- Year 2 of UIBA-NN03 BSc Management with Marketing (With Placement Year)
- Year 2 of UECA-L1N3 BSc Economics and Management with Placement Year
- UIBA-N20B BSc in Management
  - Year 2 of N20B Management
  - Year 2 of N20B Management
  - Year 2 of N23K Management with Accounting
  - Year 2 of N234 Management with Digital Business
  - Year 2 of N235 Management with Entrepreneurship
  - Year 2 of N232 Management with Finance
  - Year 2 of N252 Management with Marketing
  - Year 2 of N23L Management with Strategy and Organisation
- Year 2 of UIBA-N400 Undergraduate Accounting and Finance
- UIBA-N404 Undergraduate Accounting and Finance (with Foundation Year and Placement/Undergraduate Partnership Programme)
  - Year 3 of N4N7 Accounting and Finance (Foundation Year and Intercalated)
  - Year 3 of N404 Accounting and Finance (Foundation Year and Placement)
  - Year 3 of N405 Accounting and Finance (Foundation Year and UPP)
  - Year 3 of N403 Accounting and Finance (with Foundation Year)
- Year 3 of UIBA-N403 Undergraduate Accounting and Finance (with Foundation Year)
- UIBA-N401 Undergraduate Accounting and Finance (with Placement Year/Undergraduate Partnership Programme)
  - Year 2 of N401 Accounting and Finance (Placement)
  - Year 2 of N402 Accounting and Finance (Undergraduate Partnership Programme)
- Year 1 of UIOA-EEU Undergraduate EU Exchange
- Year 2 of UECA-L1N2 Undergraduate Economics and Management
- Year 2 of UGEA-RN21 Undergraduate German and Business Studies
- Year 2 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business
- Year 2 of UIPA-L8N2 Undergraduate Global Sustainable Development and Business Studies (with Intercalated Year)
- UIBA-N20F Undergraduate International Management
  - Year 2 of N20F International Management
  - Year 2 of N20F International Management
  - Year 2 of N20S International Management (with Accounting)
  - Year 2 of N20T International Management (with Chinese)
  - Year 2 of N20P International Management (with Entrepreneurship)
  - Year 2 of N20M International Management (with Finance)
  - Year 2 of N20U International Management (with French)
  - Year 2 of N20L International Management (with Marketing)
  - Year 2 of N20V International Management (with Spanish)
  - Year 2 of N20W International Management (with Strategy and Organisation)
  - Year 2 of N20N International Management with Digital Business
  - Year 2 of N20E Management (with Foundation Year)
  - Year 2 of N234 Management with Digital Business
- UIBA-N220 Undergraduate International Management (with Foundation Year)

- Year 3 of N220 International Management (with Foundation Year)
- Year 3 of N221 International Management with Accounting (with Foundation Year)
- Year 3 of N226 International Management with Chinese (with Foundation Year)
- Year 3 of N223 International Management with Digital Business (with Foundation Year)
- Year 3 of N224 International Management with Entrepreneurship (with Foundation Year)
- Year 3 of N222 International Management with Finance (with Foundation Year)
- Year 3 of N227 International Management with French (with Foundation Year)
- Year 3 of N225 International Management with Marketing (with Foundation Year)
- Year 3 of N228 International Management with Spanish (with Foundation Year)
- Year 3 of N229 International Management with Strategy and Organisation (with Foundation Year)
- UIBA-N20J Undergraduate Management (with Foundation Year and Placement Year/Undergraduate Partnership Programme)
  - Year 3 of N20J Management (Foundation Year and Placement)
  - Year 3 of N20K Management (Foundation Year and UPP)
  - Year 3 of N23H Management with Digital Business (with Foundation Year and Placement Year)
  - Year 3 of N23J Management with Entrepreneurship (with Foundation Year and Placement Year)
  - Year 3 of N23G Management with Finance (with Foundation Year and Placement Year)
  - Year 3 of N255 Management with Marketing (with Foundation Year and Placement Year)
- UIBA-N20E Undergraduate Management (with Foundation Year)
  - Year 3 of N20E Management (with Foundation Year)
  - Year 3 of N23N Management with Accounting (with Foundation Year and Placement Year)
  - Year 3 of N23M Management with Accounting (with Foundation Year)
  - Year 3 of N23E Management with Digital Business (with Foundation Year)
  - Year 3 of N23F Management with Entrepreneurship (with Foundation Year)
  - Year 3 of N23D Management with Finance (with Foundation Year)
  - Year 3 of N252 Management with Marketing
  - Year 3 of N254 Management with Marketing (with Foundation Year)
  - Year 3 of N23P Management with Strategy and Organisation (with Foundation Year)
- UIBA-N20C Undergraduate Management (with Placement Year/Undergraduate Partnership Programme)
  - Year 2 of N20M International Management (with Finance)
  - Year 2 of N20B Management
  - Year 2 of N20D Management (Undergraduate Partnership Programme)
  - Year 2 of N20C Management (with Placement Year)
  - Year 2 of N20Q Management with Accounting (with Placement Year)
  - Year 2 of N236 Management with Digital Business (with Placement Year)
  - Year 2 of N237 Management with Entrepreneurship (with Placement Year)
  - Year 2 of N232 Management with Finance
  - Year 2 of N233 Management with Finance (with Placement Year)

- Year 2 of N253 Management with Marketing (with Placement Year)
- Year 2 of N23L Management with Strategy and Organisation
- Year 2 of N20R Management with Strategy and Organisation (with Placement Year)
- UIOA-EOS Undergraduate Overseas Exchange
  - Year 1 of UEOS Undergraduate Overseas Exchange
  - Year 1 of UEOS Undergraduate Overseas Exchange
- Year 1 of UIOA-EUS Undergraduate USA Exchange