

WM9A4-15 Digital Development with Python

26/27

Department

WMG

Level

Taught Postgraduate Level

Module leader

Jordan Bruno

Credit value

15

Module duration

4 weeks

Assessment

Multiple

Study locations

University of Warwick main campus, Coventry Primary

Distance or Online Delivery

Description

Introductory description

This module introduces computer programming and digital development to those with little or no programming experience. It covers essential concepts common to most computer languages and helps participants practically understand and apply them.

The module specifically targets web programming and using frameworks to create professional web apps. It covers important aspects of web apps, such as databases, HTML/CSS, and basic web server/cloud functions.

Module aims

Through textbooks/tutor created materials provided at the start of the year, lectures, demonstrations, workshops and independent learning, participants improve their programming skills and learn about programming challenges. The module ends with students creating their own application and an understanding of how to host their web application in a cloud environment, using up-to-date, cloud-native methods and the latest technologies.

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

- Types of programming language
- Programming constructs
- Programming best practice

Introduction to Python

- Python fundamentals
- Python best practices
- Python Flask framework

Web Application Development

- Databases
- HTML/CSS/Templates
- Interactivity and JavaScript
- Functionality

Software development

- The SDLC
- Cloud environments
- Cloud native computing
- Web servers

Learning outcomes

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

- Analyse a design brief and develop a functional web-based component or application within a limited timeframe.
- Create a functional web application that addresses a business need, applying core programming principles and best practice.
- Explain and justify key programming decisions in relation to functionality, structure, and user needs.
- Reflect critically on the development process, identifying challenges and evaluating how they were addressed.

Indicative reading list

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

Interdisciplinary

A mixture of technology/computing topics and business topics

International

Topics are of high international demand

Subject specific skills

Programming, databases, website development, application development, software, development life cycle, cloud computing, IT architecture

Transferable skills

Programming, data analysis, problem solving, project management, communication skills, team work, critical analysis, IT architecture

Study

Study time

Type	Required
Lectures	10 sessions of 1 hour (7%)
Seminars	20 sessions of 1 hour (13%)
Online learning (independent)	20 sessions of 1 hour (13%)
Private study	40 hours (27%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Private study will include preparing for lectures and seminars, reviewing lecture notes, and engaging with required readings and multimedia resources.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A3

	Weighting	Study time	Eligible for self-certification
Timed Web Development Activity	30%	18 hours	No

This is an individual, time-limited practical assessment. Students will be given a design brief for a small web-based feature or application and will be required to implement a working solution within a fixed timeframe. The assessment focuses on interpreting requirements, making appropriate development decisions, and applying core programming skills under timed conditions. No prior knowledge of the specific brief is required, but students are expected to demonstrate their understanding of programming fundamentals and the ability to work independently.

Individual Web Application Development and Reflective Report	70%	42 hours	Yes (extension)
--	-----	----------	-----------------

Students will design and develop a small web application that addresses a defined business need. The written submission will support the application by explaining key programming decisions, demonstrating how best practices were applied, and reflecting on the development process. Students are expected to show a clear understanding of programming principles, explain their problem-solving approach, and critically reflect on any challenges encountered and how they were addressed.

Assessment group R3

	Weighting	Study time	Eligible for self-certification
Individual Assessment	30%		No

Students will complete an individual reflective report based on a provided design brief. The report will focus on how they would approach implementing a solution to meet the brief, including the key design and technical decisions they would make, how they would manage the task under time constraints, and reflections on their development as a programmer.

Individual Web Application Development and Reflective Report	70%	42 hours	No
--	-----	----------	----

Feedback on assessment

Written feedback will be provided for both assessments.

Availability

There is currently no information about the courses for which this module is core or optional.