midwest
COLLEGE

PG DIPLOMA IN
PYTHON
FULL STACK

EXEED ecx
YOUR GLOBAL VARSITY

UCAM
UNIVERSIDAD
Católica de Murcia

INDEX

ABOUT
EXEED ECX

Exeed ECX is a spin-off of Exeed College - a prestigious entity of higher learning and executive education from Westford Education Group. Exeed ECX provides a unique learning method through its satellite centres via blended learning. Exeed ECX, with its world-class academics, has accreditation and partnerships with the world's premium universities and awarding bodies. Plymouth Marjon University is a top-ranked, accredited university in the UK that collaborated with Exeed ECX. Other major universities collaborating with Exeed ECX are Universidad Católica de Murcia (UCAM) in Spain, Acacia University in the USA, and GEX Business School in France. Apart from this, our parent organisation Exeed College has tie-ups with universities across the globe – UCAM (Spain), Liverpool John Moores University (UK) and Carolina University (US) as well as with professional accreditation bodies like Scottish Qualifications Authority (SQA), Chartered Management Institute (CMI), Society for Human Resource Management (SHRM) and Cambridge International Qualification to provide globally recognised qualifications

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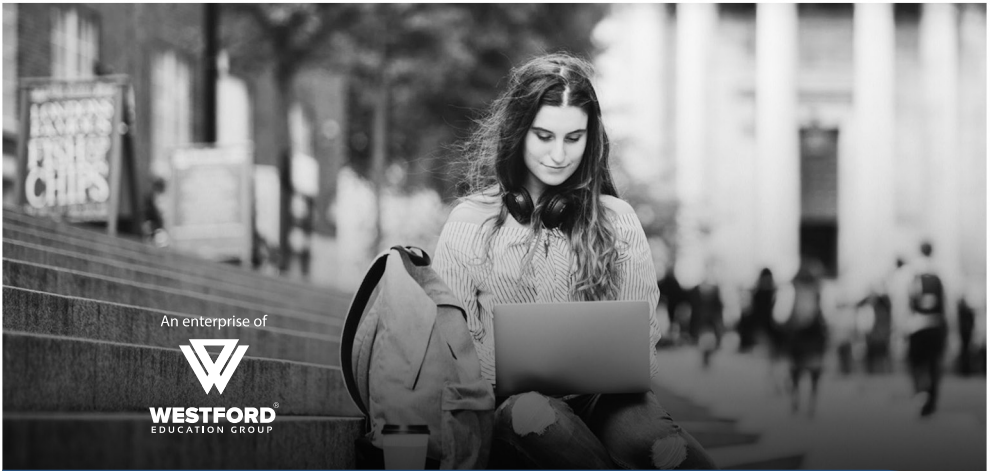
WESTFORD
EDUCATION GROUP

ABOUT WESTFORD EDUCATION

Westford Education Group (WEG) is a leading provider of accredited international education to aspiring learners across the globe. Headquartered in the UK, WEG is a pioneer in providing various Academic Degrees, Professional Certificates and Diploma courses in association with international accredited and recognized organizations and universities.

The study programs offered at WEG range from Undergraduate to Doctoral level consisting of master's, post graduate diplomas and doctoral degrees. WEG also provides specialized courses such as Doctor of Business Administration, Doctorate in Management, and Master of Business Administration (MBA) to name a few. Our core competence lies in providing higher National diplomas and professional certificate courses encompassing a wide range of domains specific to various industries.

Westford is fast emerging as a reputed brand of global education providers. WEG comprises 9 independent brands, 7 brands of Higher Education, 2 brands of K-12 education, and 1 brand operating in Sports Management.

ABOUT UCAM

Universidad Católica de Murcia (UCAM), founded in 1996, is a fully-accredited European University based out of Murcia, Spain. With learning centres in the Middle East and Southeast Asia, UCAM aims to provide students with the knowledge and skills to serve society and contribute to the further expansion of human knowledge through research and development.

The university offers various courses, including 30 official bachelor's degrees, 30 master's degrees and ten technical higher education qualifications through its Higher Vocational Training Institute, in addition to its in-house qualifications and language courses. The programmes offered are distinguished in Europe and worldwide, with good graduate employability prospects as well.

UCAM is accredited by ANECA (National Agency for Quality Assessment and Accreditation of Spain) and the Ministry of Education regarding 17 of its undergraduate degrees.

Key features:

- A fully accredited European University
- Spain's number two private university in academic output and quality
- Recognised by the European Higher Education Area
- Agreements with 167 universities around the world
- First Spanish university to secure accreditation from ANECA
- Four stars in the QS Stars rating system

UCAM

UNIVERSIDAD CATÓLICA
DE MURCIA

PROGRAM OVERVIEW

PG DIPLOMA IN PYTHON FULL STACK

This course leads the learner through Python programming approaches and aids in applying them while constructing professional full stack Web sites, depicting techniques to tackle common issues and create RESTful web services using Django and Python. It takes much tedious work and repetition out of the process, solving questions such as project structure, database object-relational mapping, templating, form validation, sessions, authentication, security, cookie management, internationalisation, basic administration, and an interface to access data from scripts. HTML, CSS, and frameworks provide a solid foundation for web designers. Additionally, the Bootstrap frontend framework and the jQuery JavaScript library facilitate building rich and powerful user interfaces. By the conclusion of this Learning Path, Learners will have a complete understanding of building a fully functional website from scratch.

Course Duration: **9 Months** | Course Modules: **6 Modules**

PROGRAM STRUCTURE

MODULE 1

CREDITS : 20

BASICS WEBSITE STRUCTURE

- **Web Programming**
- **Internet Protocols**
- **Internet concepts**
- **Creating web pages with HTML5**
- **Configuring text, color, and page layout with Cascading Style Sheets (CSS)**
- **Web design best practices**
- **Accessibility standards**
- **The web development process**
- **Using media and interactivity on web pages**
- **New CSS3 properties**
- **Website promotion and search engine optimization**
- **Responsive Websites using Bootstrap**

LEARNING OUTCOMES

- **L01** Develop a basic understanding of web programming
- **L02** Create well-structured, easy-to-maintain, standards-compliant HTML and CSS web pages
- **L03** Use CSS framework Bootstrap to create responsive pages
- **L04** Understand client-side Web security concepts

MODULE 2

CREDITS : 20

CLIENT-SIDE SCRIPTING

- **Overview of Programming**
- **Basic JavaScript**
- **Functions, Methods & Objects**
- **Decisions and Loops**

- **The Browser DOM: Document Object Model**
- **Events**
- **JQuery**
- **Ajax and JSON**
- **APIs**
- **Error Handling and Debugging**
- **Content Panels**
- **Filtering, Searching & Sorting**
- **Form Enhancement & Validation**

LEARNING OUTCOMES

- **L01** Customize pages with dynamic content using JavaScript
- **L02** Utilize JavaScript techniques for form validation
- **L03** Able to analyze, identify, and apply the characteristics of excellent scripting in a front-end web development context
- **L04** Use JavaScript to provide interactive content to websites that accommodate user requirements and interests

MODULE 3

CREDITS : 20

BUILDING DYNAMIC WEBSITE

- **Introduction to Python Advanced Data types in python**
- **Decision-making, iterative code, and algorithms**
- **Introduction to Object Oriented Programming**

  Objects and Classes
  Inheritance
  __int __
  Method Overriding
  Data Hiding

- **Backend development using Django**
- **Model View Template architecture in Django**
- **Django Template**
- **Django Admin**
- **Django Forms**

LEARNING OUTCOMES

○	**L01**	Learning python structure and how to develop programs in it
○	**L02**	Design and implement, test, and verify Server-Side web apps using python & Django
○	**L03**	Developing & verifying real-world web applications based on diverse data sources
○	**L04**	Develop Web pages that Incorporate standard data formats into websites

MODULE 4

<div style="text-align:right">**CREDITS : 20**</div>

DATABASE MANAGEMENT SYSTEM

- ○ **Introduction to Database concepts**
- ○ **Database Environment**
- ○ **PostgreSQL Setup**
- ○ **Joins and Sub Queries**
- ○ **PostgreSQL Connectivity**
- ○ **Relational Model**
- ○ **Entity Relationship Model**

- ○ **ORM Overview**
- ○ **Basic SQL Tables**
- ○ **DB creation**
- ○ **Data modeling**
- ○ **Constraints & Data Manipulation**
- ○ **SQL CRUD operations**
- ○ **Django's Database CRUD Operations**

LEARNING OUTCOMES

○	**L01**	Interpret a specified data model to query the database and turn the data into information using SQL (Structured Query Language)
○	**L02**	Understanding basic concepts and uses of databases with multiple applications
○	**L03**	Understand the theory underlying the relational data model as it pertains to interactions with modern database management systems
○	**L04**	Recognize work conditions and resolve database peculiarities by normalizing database tables

SPECIALIZATION MODULE 01

FRONT-END DESIGNING FRAMEWORKS

- Sass introduction
- Installation and setup
- Sass variables and nesting rules
- @import, @mixin, @extend
- Sass Functions
- Sass Interpolation
- For Loop/ Each Loop
- If Directive
- Setting up a Web design

- Introduction to React.js
- React Components
- JSX and DOM
- JS Web APIs
- React routers
- Web applications
- React Routers, Events, Lifestyle Methods, Context APIs & Hooks
- JWT Tokens for logins and protected routes

LEARNING OUTCOMES

L01 Apply Sass variables, mixins, extensions, and functions to improve a codebase and structure your code

L02 Learn advanced Sass techniques for creating a responsive, browser-friendly website

L03 Learn how to apply React components in web applications

L04 Build a complete Single-Page Application with robust architecture

SPECIALIZATION MODULE 02

WEB DEVELOPMENT SERVERS

- Git- Version Control
- How to Create Django Views
- Configuring URLconf's

- Django and REST APIs
- Unit Texting with Django
- Database Models

- **Using Django Admin Interface**
- **Access Control with Session & Users**
- **Generic Views**
- **Git- Version Control**
- **CI & CD using Git and Heroku**
- **TDD**

LEARNING OUTCOMES

- **LO1** Develop fully functional applications that can be used cross-platform
- **LO2** Learn to use the Django template system to interact with the database model
- **LO3** Build a Django administration site by implementing forms processing
- **LO4** Make a portfolio using Django development techniques
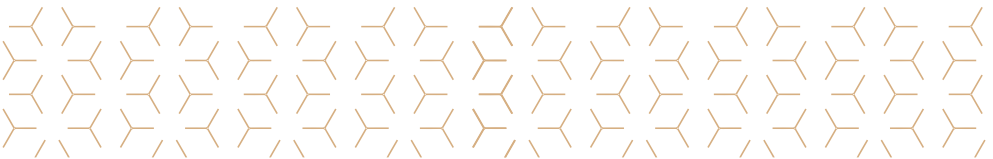
CAPSTONE PROJECT

CREDITS : 60

- **Clarifying the terms of the research**
- **Suggested areas of reading**
- **Apply the knowledge base and abilities taught throughout the course to a real world scenario**
- **Deploy your Django full-stack web application on the internet**
- **Identify the methodology or algorithm that will handle the proposed challenge**
- **Establishing a research timetable, including initial dates for further meetings between the student and supervisor**
- **Advising students about appropriate standards & conventions concerning the assessment.**
- **Providing means of contact in addition to tutorials**
- **Educate learners to research and write their results and thoughts correctly, clearly, logically, and to a high-professional degree.**

LEARNING OUTCOMES

L01 Conduct independent research and development within the context of a Full Stack Web Development

L02 Produce detailed documentation to a standard expected of a professional in the field of Web Development

L03 Communicate technical information clearly and succinctly to a broad, non-specialist audience

L04 Articulate the properties of different web services by Building a real-world web application combining front-end and back-end technologies

TRAINING KEY FEATURES

144 hours of live instructor-led training

3 industry based projects, 6 assignments, 12 Case Studies

24/7 support and LMS Access

Hands on experience with latest tools & applied projects

Live engagement classes by seasoned academics and professionals

Internship/Projects

Flexible timing for working professionals

EMI option

ELIGIBILITY

Students seeking admission to the course may have to fulfill the following criteria/requirement.

- Bachelor's Degree from a recognized University
- Proficiency in the English language

PREREQUISITES

Due to its involvement in modern Machine Learning algorithms with math and programming, candidate having knowledge with linear algebra, probability and calculus could be a plus.

TOOLS/FRAMEWORKS/ LIBRARIES

- **Scripting Tools :** Python, Javascript, PostgreSQL, SQL

- **Frameworks/Libraries :** Jquery, React, Django, SASS, Bootstrap

- **IDE Shell :** Sublime 3, pycharm, VisualStudio code

APPLICATION & USE CASES

Online Forms

Shopping Carts

E-commerce

CMS

LMS

WBMS

File Conversion

CAPSTONE PROJECTS

Showcase your capability the real-world projects

Bring Your Own Project
Learn to solve a problem which you/your organization is facing using Python full stack

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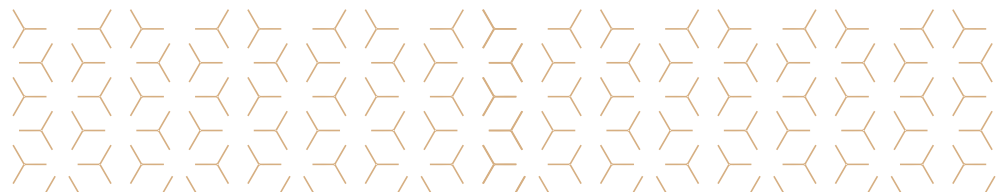
Choose From Curated Capstone Projects

LIBRARY MANAGEMENT SYSTEM

HOSPITAL MANAGEMENT SYSTEM

ONLINE EXAMINATION SYSTEM

INTERNSHIP/PROJECTS

Exeed ECX provides internships in the respective field for a period of 4 - 5 months to all eligible and able students.

INTERNSHIP/PROJECTS INCLUDES:

- Mentoring by software developers
- Live workshops on projects
- Internship certificate
- Candidate's evaluation

After successfully completing the learning modules, eligible students would move on to internships

PLACEMENT SUPPORT

Exeed ECX's high level of instruction has attracted an increasing number of companies, and the placement scene is expanding. Candidates who excel in internship will be eligible for placement at top MNC's that work with Exeed ECX.

- Deliver five proof-of- concept a month
- We will have our partner companies review the POCs
- JD based Support training
- Placement in MNC

CERTIFICATION

International Certification by
UCAM - Spain

UCAM
UNIVERSIDAD
Católica de Murcia

EXEED ecx
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COLLEGE

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