lyit

Institiúid Teicneolaíochta
Leitir Ceanainn
Letterkenny Institute
of Technology

Department of Business Studies

CERTIFICATE IN MAINFRAME TECHNOLOGIES (Online)

Level 8 Minor Award (35 Credits)

IBM Z SYSTEMS:-
Z/OS, JCL, DB2, COBOL, PL/I, CICS, REXX, CLIST, RDZ

PROGRAMME OVERVIEW

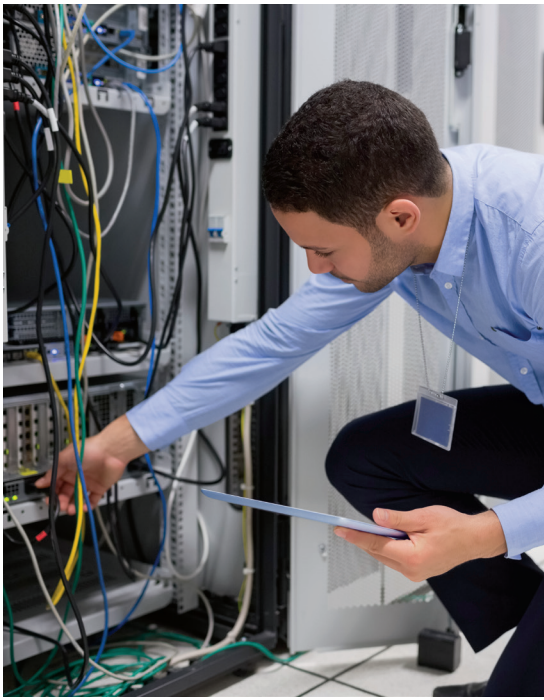
The Certificate in Mainframe Technologies enables students to develop core competencies and skills in mainframe technologies. The course will develop a very employable skill set in mainframe business systems with a strong emphasis in systems development using the business language COBOL. These skills are transferable throughout the wider computing industry.

The programme is strongly aligned with industry job requirements regionally, nationally and internationally as is evidenced by the fact that the majority of the previous student cohorts are now in full time employment in mainframe roles. According to General Motors LYIT is currently providing tailored course solutions in mainframe that are not readily available in any other 3rd level institution in Ireland. *"Letterkenny Institute of Technology has an impressive track record in educating mainframe technologies, with more than 200 students, dating back to 2005, co-operating with a number of companies including IBM. Today's mainframes are growing in popularity and require a new generation of mainframe experts."* James Flynn, IBM Ireland.

PROGRAMME LEARNING OUTCOMES

On successful completion of this module the learner will be able to:

1. Adapt the use of the mainframe utilities JCL, TSO, ISPF, SDSF, and their effectiveness within the COBOL (both batch and on-line) and PL/1 programming environment.
2. Design, configure and implement a DB2 environment, facilitating the integration of this database technology to the programming environment using imbedded SQL code.
3. Design and program extensively using the business language COBOL (Common Business Oriented Language).
4. Design and program extensively using the programming language PL/1 (Programming Language One).
5. Operate effectively in a variety of team roles and demonstrate self-direction when completing and implementing projects.



PROGRAMME SYLLABI

Mainframe Application Development 1 (COBOL/ JCL/ ISPF/ SDSF)

A learner who successfully completes this module will be able to:

1. Apply the appropriate primary and line commands primary and line commands, to create and maintain mainframe datasets and members using the end-user interface programs TSO and ISPF.
2. Create, edit and submit a batch Job on the mainframe using Job Control Language (JCL), and provide proof of the result using the SDSF tool.
3. Evaluate the three primary programming principles of sequence, selection and iteration.
4. Represent a problem using a Jackson's Structured Diagram.
5. Design and develop a series of programs that apply the report-generation and master file processing concepts using the high-level COBOL programming language.

Mainframe Application Development 2 (VSAM/ DB2/ CICS)

A learner who successfully completes this module will be able to:

1. Design and implement multiple file types on the mainframe such as SAM, VSAM and DB2 and their application within COBOL.
2. Prepare and test multistep JCL batch job scripts.
3. Design and implement a DB2 database environment on the mainframe.
4. Process a DB2 database using embedded SQL code.
5. Develop and test interactive COBOL programs in a CICS mainframe environment.

Mainframe Application Development 3 (PL/1)

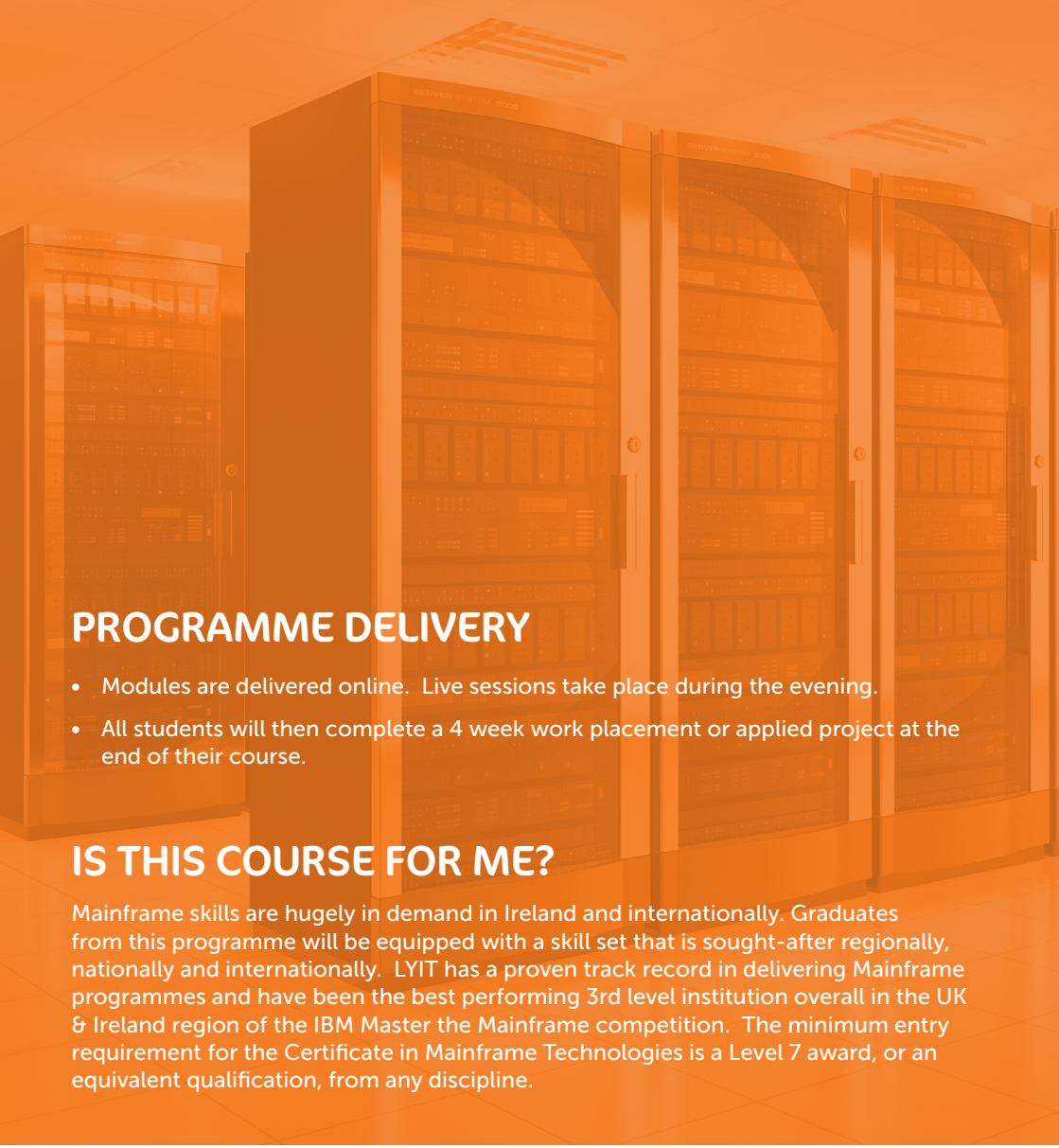
A learner who successfully completes this module will be able to:

1. Apply the appropriate primary and line commands primary and line commands, to create and maintain mainframe datasets and members using the end-user interface programs TSO and ISPF.
2. Create, edit and submit a batch Job on the mainframe using Job Control Language (JCL), and provide proof of the result using the SDSF tool.
3. Evaluate the three primary programming principles of sequence, selection and iteration.
4. Implement structured programming design principles.
5. Design and develop a series of programs that apply the report-generation and master file processing concepts using the high-level PL/1 programming language.

Work Based Learning

A learner who successfully completes this module will be able to:

1. Apply, in a practical manner to the business environment, knowledge, skills and competencies gained through formal study.
2. Examine and critically analyse how work is planned and organised at different levels within an organisation.
3. Work effectively both as an individual and as a team member.
4. Reflect and analyse the learning experience resulting from the work placement.
5. Recognise and examine areas of learning that are important for professional development and best practice.



PROGRAMME DELIVERY

- Modules are delivered online. Live sessions take place during the evening.
- All students will then complete a 4 week work placement or applied project at the end of their course.

IS THIS COURSE FOR ME?

Mainframe skills are hugely in demand in Ireland and internationally. Graduates from this programme will be equipped with a skill set that is sought-after regionally, nationally and internationally. LYIT has a proven track record in delivering Mainframe programmes and have been the best performing 3rd level institution overall in the UK & Ireland region of the IBM Master the Mainframe competition. The minimum entry requirement for the Certificate in Mainframe Technologies is a Level 7 award, or an equivalent qualification, from any discipline.

FURTHER INFORMATION

For further information visit:
www.lyit.ie/CourseDetails/D401/MainFrameTec/MainframeTechnologies

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