Course Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Course Title:	CONTEMPORARY MAINFRAMES
Course ID:	ITECH2308
Credit Points:	15.00
Prerequisite(s):	(ITECH1104)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	020117

Description of the Course:

This course introduces students to mainframe concepts with knowledge and skills necessary to begin using the basic facilities of a mainframe computer, preparing them for a career in large systems computing. It covers the concepts of contemporary mainframes including their business usage, architecture, data set types and mainframe user interfaces. In the context of programming, students are introduced to various mainframe programming and scripting languages. This course provides the basis for students to pursue subsequent course work in more advanced, specialised areas of mainframes, such as system administration or application programming.

Grade Scheme:	Graded (HD, D, C, P, MF, F, XF)
Placement Component:	No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory						
Intermediate			✔			
Advanced						

Learning Outcomes:

Knowledge:

K1.   Discuss benefits to businesses using mainframes.

K2.   Describe the basic concepts of mainframe computers including hardware, architecture and business use.

K3.   Contrast the usage of various operating systems on mainframes.

K4.   Contrast the application of different types of data sets in a z/OS environment.

K5.   Define typical mainframe workloads and its major areas of application.

K6.   Interpret various mainframe programming and scripting languages and their application.

Skills:

S1.   Utilise mainframe user interfaces such as: TSO, ISPF and SDSF.

S2.   Apply technical skills for maintaining job processes, status checking and evaluation of output.

S3.   Implement and manage various types of mainframe data sets using system interfaces.

S4.   Write, compile and run programming code and scripts on a mainframe operating system.

S5.   Use video demonstrations to communicate and present solutions to a business problem.

Application of knowledge and skills:

A1.   Demonstrate initiative and judgement to apply mainframe technologies and techniques to unique and diverse business contexts.

A2.   Relate and interpret emerging technologies of large computing systems to ever increasing business needs.

Course Content:

This course covers the concepts of contemporary mainframes including their business usage in the context of workload types, hardware architecture, PO and PS dataset types, JES and DFSMS subsystems, and mainframes user interfaces such as TSO/E, ISPF, and SDSF. In the context of programming, students are introduced to various mainframe programming and scripting languages including REXX and JCL. This course provides the basis for students to pursue subsequent course work in more advanced, specialized areas of mainframes, such as system administration or application programming.

Topics may include:

- Mainframe use in business.
- Mainframe hardware.
- Mainframe operating systems.
- Data sets in a mainframe environment.
- Typical mainframe workloads and its major areas of application.
- Mainframe system interfaces.
- Batch job processing.
- Mainframe programming and scripting languages.
- Compiling and link-editing programs on mainframes.
- Data and storage management - Data Facility Storage Management Subsystem (DFSMS)

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are be embedded within

curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni course, and all must be directly assessed in each program.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, interact and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: • Using effective verbal and non-verbal communication • Listening for meaning and influencing via active listening • Showing empathy for others • Negotiating and demonstrating conflict resolution skills • Working respectfully in cross-cultural and diverse teams.	A1,A2	AT1,AT2
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: • Creating a collegial environment • Showing self -awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically • Evaluating ideas, concepts and information • Considering alternative perspectives to refine ideas • Challenging conventional thinking to clarify concepts • Forming creative solutions in problem solving	Not applicable	Not applicable
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Finding, evaluating, managing, curating, organising and sharing digital information • Collating, managing, accessing and using digital data securely • Receiving and responding to messages in a range of digital media • Contributing actively to digital teams and working groups • Participating in and benefiting from digital learning opportunities	K1-K6, S1-S5	AT1,AT2,AT3

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life.	Not applicable	Not applicable

Learning Task and Assessment:

Students should attend laboratory classes and complete laboratory worksheets. Students should maintain a folio and record for tutors to see at any time throughout the semester. Students should participate in lectures and computer laboratory classes and maintain a notebook with notes and exercises. The assessment for the subject will include at least one problem-solving assignment and one practical test during the semester. The final examination test will assess the understanding of the concepts studied in this course.

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
S1, S2, S3, S4, S5, A1, and A2	The tasks will develop skills in the analysis and practical application of content introduced.	Lab Exercises and Practical tests	30%-40%
S1-S5, A1	Self-directed initiatives aimed at producing an artifact that demonstrates skill acquisition	Assignment(s) and Presentation(s)	30%-40%
K1, K2, K3, K4, K5 and K6, A1 and A2	Participate in lectures and labs/tutorials, read and summarise theoretical and practical aspects of the course.	Tests and Examinations	20%-30%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool