Federation University
School of Engineering, IT and Physical Sciences

Enrolment Program Structure

Program Code – GM8

Program Name – Bachelor of Mechatronic Systems Engineering (Honours)

First Year	Course Code	Course Name	Course Rules
Semester 1			
	ENGIN1001	Professional Engineering	**EX**: ENCOR1005
	ENGIN1002	Engineering Physics	**EX:** ENCOR1021 and ENCOR2100
	ENGIN1003	Materials in Engineering	**EX:** ENCOR1110
	MATHS1001	Modelling and Change (Introductory Level)	
Semester 2			
	ENGIN1004	Engineering Design & Drafting	**EX:** ENCOR1010
	ENGIN1005	Engineering Mechanics	**EX:** ENCOR1110 and ENCOR1021
	ENGIN1006	Engineering Computer Modelling	**EX:** ENCOR1021
	MATHS1005	Secrets of the Matrix	

Second Year	Course Code	Course Name	Course Rules
Semester 1			
	ENGIN2001	Professional Practice	**PR:** ENGIN1001 or ENCOR1005 **EX:** ENCOR3035
	ENGIN2101	Digital Logic and Design	**PR:** ENGIN1002
	ENGIN2402	Measurement and Computer Instrumentation	**PR:** ENCOR1000 or ENCOR1021 or ENGIN1002 **EX**: ENMTX2020 and ETMEC3260
	ENGIN2403	Fluid and Pneumatic Control	**PR:** ENGIN1006 and ENCOR1000 or ENCOR1021 or ENGIN1002 **EX:** ENMTX2030
	MATHS2016	Modelling Continuous Change	**PR**: MATHS1001
Semester 2			
	ENGIN2002	Engineering Project Management and Sustainable Design	**PR:** ENCOR1005 or ENGIN1001 **EX**: ENMEC2121 and ENMTX2050
	ENGIN2303	Mechanism and Machine Theory	**PR**: ENCOR1000 or ENCOR1021 or ENGIN1005 **EX:** ENMEC2111
	ENGIN2404	Electrical and Electronic Drives and Actuators	**PR**: ENCOR1000 or ENCOR1021 or ENGIN1002

	Course Code	Course Name	Course Rules
			EX: ENMTX2040
	MATHS3001	Modelling and Change (Advanced Level)	**PR**: MATHS2001 **EX**: MATHS2006
Third Year	**Course Code**	**Course Name**	**Course Rules**
Semester 1			
	ENGIN3401	Engineering Computer Applications and Interactive Modelling	**PR**: ENCOR1021 or ENGIN1006 **EX**: ENMTX3010 and ITECH1000
	ENGIN3402	Mechatronics Components Design	**PR**: ENCOR1010 or ENGIN1004 and ENGIN23003 or ENMEC2111 **EX**: ENMTX3020
	ENGIN3403	Sensors and Artificial Perception	**PR**: ENGIN2402 **EX**: ENMTX3060
	ENGIN3404	System Dynamics and Control	**PR**: MATHS3001 or MATHS3040 **EX**: ENMEC3500 and ENMTX3040
Semester 2			
	ENGIN3001	Engineering Research Methodology and Management	**PR**: ENCOR1005 or ENGIN1001 **EX**: ENCOR4010 and ENMTX4060
	ENGIN3002	Engineering Design Project	**PR**: ENGIN2002 or ENMEC2121 or ENMTX2050 **EX;** ENCIV3360 and ENMEC2120 and ENMEC2121 and ENMEC3250 and ENMTX3800
	ENGIN3405	Digital Imaging and Artificial Intelligence	**PR**: MATHS3001 or MATHS3040 **EX**: ENMTX3030
	ENGIN3406	Intelligent Mechanisms Design	**PR**: ENGIN2303 or ENMEC2111 **EX**: ENMTX4010
Fourth Year	**Course Code**	**Course Name**	**Course Rules**
Semester 1			
	ENGIN4001	Engineering Project 1	**PR**: ENGIN3001 **EX**: ENCOR4100
	ENGIN4401	Industrial Robotic Systems	**PR**: ENGIN3406 or ENMTX4010 **EX**: ENMTX3070
	MREGC5001	Terotechnology and Life Cycle Costs	**PR**: Nil **EX**: ENMTX4050
Semester 2			
	ENGIN4002	Engineering Project 2	**PR**: ENCOR4110 or ENGIN4001 **EX**: ENCOR4200
	ENGIN4402	Digital and Embedded Systems	**PR**: ENGIN2401 or ENMTX2010 and ENGIN3401 or ENMTX3010 **EX**: ENMTX3050

Additional Information

This structure applies to all students.

Glossary

Semester: designated teaching period.

PR: Pre-requisite, a course/s that must be completed prior to undertaking another course.

CO: Co-requisite, a course/s that must be completed simultaneously, or prior to, undertaking another course.

EX: Exclusion, a course/s that may not be taken.