

**SEMESTER 2, 2021 – COURSE LIST – INFORMATION TECHNOLOGY**

Course Code	Course Name	PR - Pre-Requisite EX - Exclusion	MTH	CHLL	BER	ODL	FLXB	FLXG	FLXK	NTC
ITECH1100	Understanding the Digital Revolution	PR: Nil EX: Nil	Y			Y				
ITECH1101	IT Problem Solving	PR: Nil EX: Nil				Y				
ITECH1102	Networking and Security	PR: Nil EX: Nil	Y			Y				
ITECH1103	Big Data and Analytics	PR: Nil EX: Nil	Y	Y	Y	Y				
ITECH1104	Cloud Computing and Enterprise	PR: Nil EX: Nil	Y	Y	Y	Y				
ITECH1400	Foundations of Programming	PR: Nil EX: ITECH1000 and ITECH5000	Y			Y				
ITECH2000	Mobile Development Fundamentals	PR: ITECH1101 EX: ITECH1300	Y	Y	Y	Y				
ITECH2001	Game Development Fundamentals	PR: ITECH1101 EX: Nil	Y	Y	Y	Y	Y	Y	Y	
ITECH2004	Data Modelling	PR: ITECH1103 EX: Nil	Y	Y	Y	Y				
ITECH2111	Artificial Intelligence	PR: ITECH1000 EX: ITECH6111				Y				
ITECH2250	IT Project Management Techniques	PR: ITECH1001 and at least 7 computing courses EX: ITECH3213 and ITECH5213	Y	Y	Y	Y				
ITECH2300	Mobile Networks and Wireless Communications	PR: ITECH1002 or ITECH1102 EX: Nil	Y	Y	Y	Y				
ITECH2302	Big Data Management	PR: ITECH1103 EX: Nil	Y			Y				
ITECH2305	Analysing the Modern Business	PR: ITECH1100 EX: Nil	Y		Y	Y				
ITECH2306	Agile Coding	PR: ITECH2000 and ITECH2001 or ITECH1000 or ITECH1400 EX: ITECH2100				Y				

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ITECH2307	3D Modelling and Animation	PR: ITECH2001 EX: ITECH3221 and ITECH3223 and ITECH3228	Y			Y				
ITECH2309	Software Engineering	PR: ITECH2100 or ITECH2306 EX: ITECH3201	Y			Y				
ITECH2310	Cloud Infrastructure and Services	PR: ITECH1104 EX: ITECH2201	Y			Y				
ITECH2312	Industry Experience 2	PR: 8 computing courses EX: Nil	Y			Y				
ITECH3002	Professionalism and Entrepreneurship	PR: ITECH2004 and ITECH2250 EX: ITECH3203	Y	Y	Y	Y				
ITECH3100	Cloud and Mobile Security	PR: ITECH1102 EX: ITECH3300	Y	Y		Y				
ITECH3103	IT Strategy and Governance	PR: ITECH1100 EX: Nil	Y		Y	Y				
ITECH3104	Game Programming	PR: ITECH2100 or ITECH2306 EX: ITECH3205 and ITECH3206	Y			Y				
ITECH3109	Data Structures and Algorithms	PR: ITECH2100 or ITECH2306 EX: ITECH3218	Y			Y				
ITECH3208	Project 1	PR: ITECH2002 or ITECH2101 or ITECH3201 and ITECH2250 or ITECH3213 EX: Nil	Y			Y				
ITECH3209	Project 2	PR: ITECH3208 EX: Nil	Y	Y	Y	Y				
ITECH5403	Comparative Programming Languages	PR: ITECH1000 or ITECH1400 EX: Nil	Y			Y				
ITECH5404	Business Process Analytics and Change	PR: Nil EX: Nil	Y							
ITECH5500	Professional Research & Communication	PR: ITECH1100 EX: ITECH5401	Y			Y				
ITECH7000	Professional Engagement	PR: Nil EX: Nil				Y				
ITECH7201	Software Engineering: Analysis and Design	PR: ITECH1000 or ITECH1400 EX: ITECH3201	Y			Y				

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<b>ITECH7401</b>	IT Project Management Leadership	PR: ITECH1100 EX: Nil	Y			Y				
<b>ITECH7406</b>	Business Intelligence and Data Warehousing	PR: ITECH1006 or ITECH1103 EX: Nil	Y			Y				
<b>ITECH7415</b>	Masters Project	PR: ITECH5500 and ITECH7401 EX: ITECH7403 and ITECH7404 and ITECH7405 and ITECH7602	Y			Y				

### SEMESTER 2, 2021 COURSE LISTING – ENGINEERING

Course Code	Course Name	PR - Pre-Requisite EX - Exclusion	MTH	CHLL	BER	ODL	FLXB	FLXG	FLXK	NTC
<b>ENGIN1004</b>	Engineering Design and Drafting	PR: Nil EX: ENCOR1010	Y	Y		Y				
<b>ENGIN1005</b>	Engineering Mechanics	PR: Nil EX: ENCOR1000 and ENCOR1021	Y	Y		Y				
<b>ENGIN1006</b>	Engineering Computer Modelling	PR: Nil EX: ENCOR1021	Y	Y		Y				
<b>ENGIN2001</b>	Professional Practice	PR: ENCOR1005 or ENGIN1001 EX: ENCOR3035	Y	Y						
<b>ENGIN2002</b>	Engineering Project Management and Sustainable Design	PR: ENCOR1005 or ENGIN1001 EX: ENMEC2121 and ENMTX2050	Y	Y		Y				
<b>ENGIN2103</b>	Principles of Renewable Energy Sources	PR: ENGIN1002 EX: Nil	Y			Y				
<b>ENGIN2203</b>	Structural Analysis	PR: ENCOR2030 or ENGIN2301 EX: ENCIV2310	Y	Y						

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<b>ENGIN2204</b>	Introduction to Geotechnical Engineering	PR: Nil EX: ENCIV2330	Y	Y						
<b>ENGIN2303</b>	Mechanism and Machine Theory	PR: ENCOR1000 or ENCOR1021 or ENGIN1005 EX: ENMEC2111	Y	Y		Y				
<b>ENGIN2304</b>	Thermofluids	PR: ENCOR1000 or ENCOR1021 or ENGIN1005 EX: ENCOR2100	Y							
<b>ENGIN2404</b>	Electrical and Electronic Drives and Actuators	PR: ENCOR1000 or ENCOR1021 or ENGIN1002 EX: ENMTX2040		Y		Y				
<b>ENGIN2503</b>	Rock Mechanics Applications	PR: ENCOR2030 or ENGIN2301 EX: ENMIN3040 and ENMIN5160	Y			Y				
<b>ENGIN3001</b>	Engineering Research Methodology and Management	PR: ENCOR1005 and ENGIN1001 EX: ENCOR4010 and ENMTX4060	Y	Y		Y				
<b>ENGIN3002</b>	Engineering Design Project	PR: ENGIN2002 or ENMEC2121 or ENMTX2050 EX: ENCIV3360 and ENMEC2120 and ENMEC3250 and ENMTX3800	Y	Y						
<b>ENGIN3205</b>	Road Engineering	PR: ENCIV3340 or ENGIN3203 EX: ENCIV3350	Y	Y						
<b>ENGIN3206</b>	Water and Wastewater	PR: ENCIV2320 or ENGIN2201 EX: ENCIV3320	Y	Y						
<b>ENGIN3304</b>	Thermodynamics	PR: ENGIN2304 and ENCOR2100 EX: ENMEC3071	Y							
<b>ENGIN3305</b>	Manufacturing Engineering	PR: ENCOR2100 or ENGIN2304 EX: ENMEC3071	Y							
<b>ENGIN3405</b>	Digital imaging and Artificial Intelligence	PR: MATHS3001 or MATHS3040 EX: ENMTX3030		Y						
<b>ENGIN3406</b>	Intelligent Mechanisms Design	PR: ENGIN2303 or ENMEC2111 EX: ENMTX4010		Y						
<b>ENGIN3503</b>	Surface Mining Operations and Equipment	PR: ENGIN2502 or ENMIN2040 EX: ENMIN3070 and ENMIN5018	Y			Y				

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<b>ENGIN4001</b>	Engineering Project 1	PR: ENGIN3001 EX: ENCOR4100				Y				
<b>ENGIN4002</b>	Engineering Project 2	PR: ENCOR4100 or ENGIN4001 EX: ENCOR4200	Y	Y		Y				
<b>ENGIN4201</b>	Management of Water Resources	PR: ENGIN3206 or ENGGC3204 EX: ENGGC4203	Y	Y						
<b>ENGIN4302</b>	Energy Conversion	PR: ENGIN3304 or ENMEC3071 EX: ENMEC4090				Y				
<b>ENGIN4402</b>	Digital and Embedded Systems	PR: ENGIN2401 or ENMTX2010 and ENGIN3401 or ENMTX3010 EX: ENMTX3050		Y						
<b>ENGIN5002</b>	Advanced Engineering Project 1	PR: ENGIN3001 or ENGIN5001 EX: ENCOR7020				Y				
<b>ENGIN5003</b>	Advanced Engineering Project 2	PR: ENGIN5002 EX: ENCOR7030				Y				
<b>ENGIN5205</b>	Engineering Project Management Theory	PR: Nil EX: Nil				Y				
<b>ENGIN5208</b>	Sustainable Engineering Practice	PR: Nil EX: Nil	Y							
<b>ENGIN5304</b>	Advanced Robotics	PR: Nil EX: ENMEC7080				Y				
<b>ENGIN5405</b>	Advanced Control Systems Engineering	PR: ENGIN3404 or ENMTX3040 EX: ENMTX4020	Y	Y						
<b>ENGIN5501</b>	Mine Safety and Environmental Engineering	PR: Nil EX: Nil				Y				
<b>ENGIN5503</b>	Advanced Mine Ventilation	PR: Nil EX: ENMIN4050	Y			Y				

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<b>ENGIN5508</b>	Smart Engineering Technologies	PR: ENGIN3001	Y							
<b>ENGIN5510</b>	Company Economics and Finance	PR: Nil EX: ENMIN5150				Y				
<b>ENGIN5515</b>	Tunnelling and Mine Development	PR: Nil EX: ENMIN5120				Y				
<b>MREGC5003</b>	Industrial Techniques in Maintenance Management	PR: Nil EX: Nil				Y				
<b>MREGC5004</b>	Asset Management Techniques	PR: Nil EX: Nil				Y				
<b>MREGC5006</b>	Machine Condition Monitoring and Fault Diagnosis	PR: Nil EX: Nil				Y				
<b>MREGC5007</b>	Risk Engineering	PR: Nil EX: Nil				Y				
<b>MREGC5101</b>	Basic Quantitative Skills for Reliability Engineering	PR: Nil EX: MREGC5005				Y				
<b>MREGC5102</b>	Understanding Reliability	PR: Nil EX: Nil				Y				
<b>MREGC5103</b>	Advanced Reliability	PR: MREGC5005, MREGC5101, MREGC5102 EX: Nil				Y				
<b>MREGC5104</b>	Reliability Applications	PR: MREGC5101 or MREGC5102 or MREGC5103 EX: Nil				Y				

**SEMESTER 2, 2021 COURSE LISTING – MATHS AND SCIENCE**

Course Code	Course Name	PR - Pre-Requisite EX - Exclusion	MTH	CHLL	BER	ODL	FLXB	FLXG	FLXK	NTC
<b>MATHS1005</b>	Secrets of the Matrix	PR: Nil EX: Nil	Y	Y		Y				
<b>MATHS2009</b>	Space, Shape and Design (Intermediate level)	PR: One mathematics course or equivalent EX: MATHS1009	Y	Y		Y				
<b>MATHS2012</b>	Maths, Digraphs and Networks	PR: 1 undergraduate mathematical course EX: Nil	Y			Y				
<b>MATHS3001</b>	Modelling and Change (Advanced level)	PR: MATHS1001 and at least 15 credit points for MATHS subject-area at any level EX: MATHS2006	Y	Y		Y				
<b>MATHS3002</b>	Analytics Project 1	PR: MATHS2001 or STATS2101 EX: Nil	Y			Y				
<b>SCGEO1103</b>	Planet Earth	PR: Nil EX: Nil	Y			Y				
<b>SCGEO2102</b>	Optical Mineralogy	PR: SCGEO1103 EX: Nil	Y							
<b>SCGEO2103</b>	Structural Geology	PR: SCGEO1103 EX: Nil	Y							
<b>SCGEO2105</b>	Economic Geology	PR: SCGEO1102 or SCGEO1103 EX: Nil	Y							
<b>SCGEO2107</b>	Fieldwork Principles and Practice	PR: SCGEO1103, SCGEO2103, SCGEO2112 EX: Nil				Y				
<b>SCGEO3104</b>	Fieldwork	PR: SCGEO2103, SCGEO2107, SCGEO2102 EX: Nil				Y				
<b>SCGEO3106</b>	Applied Geophysics	PR: SCGEO1103 EX: Nil				Y				

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<b>SCMET3200</b>	Mineral Processing II	PR: SCMET3100 EX: Nil	Y			Y				
<b>STATS1000</b>	Statistical Methods	PR: Nil EX: SCIGC1020	Y	Y	Y	Y				
<b>STATS2100</b>	Experimental Design and Analysis	PR: STATS1000 EX: Nil	Y			Y				