

EPD CURRICULUM MATRIX 2020-2024 [new calendar]

	Term 4		Term 5		Term 6						Term 7				Term 8									
Advising Track	Important: Required to enroll in all Pillar Core subjects Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term		Important: Required to enroll in all Pillar Core subjects Required to enroll in 1 Restricted Pillar Elective Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term		Important: Required to enroll in Restricted Track Elective Required to enroll in 3 Pillar Electives Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term Optional: To replace Pillar Electives with Cross-Pillar Electives (Pink Box) Optional: To replace up to 3 pillar/advanced pillar electives with Unrestricted Electives (including Electives from other Pillars) that run across Term 6, 7 & 8						Important: Required to enroll in 2 Advanced Pillar Electives Required to enroll in Capstone Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term Optional: To replace Pillar Electives with Cross-Pillar Electives (Pink Box) Optional: To replace up to 3 pillar/advanced pillar electives with Unrestricted Electives (including Electives from other Pillars) that run across Term 6, 7 & 8				Important: Required to enroll in 2 Advanced Pillar Electives Required to enroll in Capstone Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term Optional: To replace Pillar Electives with Cross-Pillar Electives (Pink Box) Optional: To replace up to 3 pillar/advanced pillar electives with Unrestricted Electives (including Electives from other Pillars) that run across Term 6, 7 & 8									
	PILLAR CORE	PILLAR CORE	PILLAR CORE	PILLAR CORE	HASS	RESTRICTED TRACK ELECTIVE	PILLAR ELECTIVE	PILLAR ELECTIVE	PILLAR ELECTIVE	PILLAR ELECTIVE	PILLAR ELECTIVE	PILLAR ELECTIVE	ADVANCED PILLAR ELECTIVE	ADVANCED PILLAR ELECTIVE	CROSS-PILLAR ELECTIVE	CAPSTONE	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE)	ADVANCED PILLAR ELECTIVE	ADVANCED PILLAR ELECTIVE	CROSS-PILLAR ELECTIVE	CAPSTONE	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE)	HASS	
CE	30.001 Structure & Materials Pre Req: -10.013, -10.015, -10.016	30.002 Circuits & Electronics Pre Req: -10.013, -10.017, -10.018	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	30.101 Systems & Control Pre Req: -10.002, -10.018	HASS	30.110 Digital Systems Lab Pre Req: -10.014, -10.020, -10.002	30.106 Micro-electronics Circuits & Devices Pre Req: -10.001	30.107 Power Electronics Pre Req: -10.013, -10.015, -10.018, -10.019, -10.002	30.111 Entrepreneurship Pre Req: NIL	30.203 Topics in Biomedical & Healthcare Engineering Pre Req: -10.016, -10.019, -10.001	30.316 Digital Biomimetics: Sustainable & Manufacturing Pre Req: -10.001, -10.007	30.123 Healthcare Product Design Pre Req: -10.007, -10.001, -10.002, -10.007, -10.101	30.202 Design of Intelligent Integrated Circuits & Systems Pre Req: -10.002	ESD -10.006 User Interface Design and Implementation ESD -10.020 Network Security ESD -10.025 Computer Vision Note: Please refer to CSD's website for latest course offerings and subject pre-requisites	CAPSTONE	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.105 Design and Manufacturing (EPO) ESD -10.101 Technologies for Sustainable Global Health (SMT) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	CAPSTONE	30.201 Wireless Communications & Internet of Things Pre Req: NIL	30.115 Digital Signal Processing Pre Req: -10.007	CSD -10.017 Graphics and Visualization ESD -10.021 Artificial Intelligence Note: Please refer to CSD's website for latest course offerings and subject pre-requisites	CAPSTONE	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.106 Engineering Management (EPO) ESD -10.116 AI for Healthcare (EPO) ESD -10.102 Energy Systems and Management (ESM) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	HASS	
COMPUTER ENGINEERING	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or -10.020, -10.017, -10.018, -10.002	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.013, -10.015, -10.018, -10.017			CSD -10.001 Information Systems & Programming ESD -10.002 Computational Structures ESD -10.004 Algorithms ESD -10.007 Machine Learning ESD -10.119 Statistical and Machine Learning Note: Please refer to CSD and ESD websites for latest course offerings and pre-requisites	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) XX-XXX Unrestricted Electives Note: This course counts as Unrestricted Elective (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	HASS				HASS												
HED	30.001 Structure & Materials Pre Req: -10.013, -10.015, -10.016	30.002 Circuits & Electronics Pre Req: -10.013, -10.017, -10.018	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	30.101 Systems & Control Pre Req: -10.002, -10.018	HASS	30.203 Topics in Biomedical & Healthcare Engineering Pre Req: -10.016, -10.019, -10.001	30.104 Dynamics Pre Req: -10.015, -10.018, -10.101	30.105 Machine Element Design Pre Req: -10.001	30.106 Micro-electronics Circuits & Devices Pre Req: -10.001	30.107 Power Electronics Pre Req: -10.013, -10.015, -10.018, -10.017, -10.002	HASS	30.123 Healthcare Product Design Pre Req: -10.007, -10.001, -10.002, -10.007, -10.101	30.114 Advanced Feedback & Control Pre Req: -10.101	30.119 Intelligent Robotics Pre Req: -10.101, -10.002, -10.014, -10.020	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE		30.113 Design and Fabrication of Microelectromechanical Systems Pre Req: -10.001, -10.002, -10.007, -10.101	30.115 Digital Signal Processing Pre Req: -10.007	30.118 Optical Engineering & Communications Pre Req: -10.017, -10.007, -10.101	30.200 Micro- Nano Projects Laboratory Pre Req: -10.103, -10.108	30.201 Wireless Communications & Internet of Things Pre Req: NIL	CAPSTONE	
HEALTHCARE ENGINEERING DESIGN	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or -10.020, -10.017, -10.018, -10.002	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.013, -10.015, -10.018, -10.017	30.103 Fluid Mechanics Pre Req: -10.015, -10.018, -10.007		30.108 Introduction to Material Science Pre Req: -10.014, -10.001	30.109 Thermal Systems for Power & Environment Pre Req: -10.023	30.110 Digital Systems Lab Pre Req: -10.014, -10.019, -10.002	30.111 Entrepreneurship Pre Req: NIL	30.316 Digital Biomimetics: Sustainable & Manufacturing Pre Req: -10.001, -10.007	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.112 Machine Learning (CSD) XX-XXX Unrestricted Electives Note: This course counts as Unrestricted Elective (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.105 Design and Manufacturing (EPO) ESD -10.101 Technologies for Sustainable Global Health (SMT) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	HASS				HASS				*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.106 Engineering Management (EPO) ESD -10.116 AI for Healthcare (EPO) ESD -10.102 Energy Systems and Management (ESM) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites			
B14	30.001 Structure & Materials Pre Req: -10.013, -10.015, -10.016	30.002 Circuits & Electronics Pre Req: -10.013, -10.017, -10.018	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	30.101 Systems & Control Pre Req: -10.002, -10.018	HASS	30.108 Introduction to Material Science Pre Req: -10.014, -10.001	30.105 Machine Element Design Pre Req: -10.001	30.109 Thermal Systems for Power & Environment Pre Req: -10.023	30.110 Digital Systems Lab Pre Req: -10.014, -10.019, -10.002	30.316 Digital Biomimetics: Sustainable & Manufacturing Pre Req: -10.001, -10.007	CSD -10.112 Machine Learning ESD -10.102 Foundations of Cybersecurity ESD -10.002 Optimization Note: Please refer to CSD and ESD websites for latest course offerings and pre-requisites	30.303 Industry 4.0 & 3D Printing Pre Req: NIL	30.114 Advanced Feedback & Control Pre Req: -10.101	30.119 Intelligent Robotics Pre Req: -10.101, -10.002, -10.014, -10.020	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE		30.115 Digital Signal Processing Pre Req: -10.007	30.201 Wireless Communications & Internet of Things Pre Req: NIL	CAPSTONE	HASS	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.106 Engineering Management (EPO) ESD -10.116 AI for Healthcare (EPO) ESD -10.102 Energy Systems and Management (ESM) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites		
BEYOND INDUSTRY 4.0	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or -10.020, -10.017, -10.018, -10.002	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.013, -10.015, -10.018, -10.017	30.103 Fluid Mechanics Pre Req: -10.015, -10.018, -10.007		HASS				*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.112 Machine Learning (CSD) ESD -10.119 Statistical and Machine Learning (ESD) XX-XXX Unrestricted Electives Note: This course counts as Unrestricted Elective (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	CAPSTONE	*PILLAR ELECTIVE (PREVIOUSLY KNOWN AS TECHNICAL ELECTIVE) ESD -10.105 Design and Manufacturing (EPO) ESD -10.101 Technologies for Sustainable Global Health (SMT) XX-XXX Unrestricted Electives Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CSD and ESD websites for latest course offerings and pre-requisites	HASS	CROSS-PILLAR ELECTIVE ESD -10.006 User Interface Design and Implementation Note: Please refer to CSD and ESD websites for latest course offerings and pre-requisites				CROSS-PILLAR ELECTIVE (D) ESD -10.021 Artificial Intelligence Note: Please refer to CSD's website for the pre-reqs						

NOTE: *Students from AY2017 onwards can take up to 3 Unrestricted Electives (including Technical Electives) and this can be used to fulfil a minor. *Courses may change without notice. Please check with respective Pillar/Cluster websites for latest offering. *Enrollment into courses are subject to fulfillment of pre-requisites and availability.