

EPD CURRICULUM MATRIX 2020-2023 [new calendar]

		Term 4				Term 5				Term 6					Term 7				Term 8																										
Important:		Required to enroll in all Pillar Core subjects Required to enroll in 1 HASS subject Required to enroll in minimum of 4 subjects in this term				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 in minimum of 4 subjects in this term				Required to enroll in Restricted Track Elective + 2 Pillar Electives Required to enroll in 1 HASS subject Required to enroll in minimum of 4 subjects in this term Optional: To replace up to 3 Pillar/Advanced pillar electives with Cross-Pillar Electives (Pink Box) that run across terms 6, 7 & 8 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					Required to enroll in 2 Advanced Pillar Electives Required to enroll in Capstone Required to enroll in 1 HASS subject Required to enroll in minimum of 4 subjects in this term Optional: To replace up to 3 Pillar/Advanced pillar electives with Cross-Pillar Electives (Pink Box) that run across terms 6, 7 & 8 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				Required to enroll in 2 Advanced Pillar Electives Required to enroll in Capstone Required to enroll in 1 HASS subject Required to enroll in minimum of 4 subjects in this term Optional: To replace up to 3 Pillar/Advanced pillar electives with Cross-Pillar Electives (Pink Box) that run across terms 6, 7 & 8 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																										
Adding Track		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE		PILLAR CORE																			
CE	COMPUTER ENGINEERING	30.001 Structure & Materials <small>Pre Req: -10.013, -10.015, -10.016</small>		30.002 Circuits & Electronics <small>Pre Req: -10.013, -10.017, -10.018</small>		30.007 Engineering Design Innovation <small>Pre Req: -03.007, -10.014</small>		30.101 Systems & Control <small>Pre Req: -30.002, -10.018</small>		HASS		30.110 Digital Systems Lab <small>Pre Req: -10.014, -10.020, -30.007</small>		30.106 Micro-electronics Circuits & Devices <small>Pre Req: -30.001</small>		30.107 Power Electronics <small>Pre Req: -10.013, -10.015, -10.018, -10.017, -30.002</small>		30.111 Entrepreneurship <small>Pre Req: NIL</small>		30.203 Topics in Biomedical & Healthcare Engineering <small>Pre Req: -10.016, -10.019, -30.001</small>		30.316 Digital Biomimetics: Sustainable & Manufacturing <small>Pre Req: -30.001, -30.007</small>		30.123 Healthcare Product Design <small>Pre Req: -03.007, -30.001, -30.002, -30.007, -30.101</small>		30.202 Design of Intelligent Digital Integrated Circuits & Systems <small>Pre Req: -30.002</small>		CS0 30.026 User Interface Design and Implementation 30.020 Network Security 30.018 Computer Vision 30.046 Cloud Computing SMT 30.119 Nanoelectronics and Technology <small>Note: Please refer to CS0's website for the latest course offerings and subject pre-requisites</small>		CAPSTONE		30.201 Wireless Communications & Internet of Things <small>Pre Req: NIL</small>		30.115 Digital Signal Processing <small>Pre Req: -10.007</small>		ESD 30.017 Graphics and Visualization 30.021 Artificial Intelligence <small>Note: Please refer to CS0's website for the latest course offerings and subject pre-requisites</small>		CAPSTONE		30.106 Engineering Management (EPD) 30.102 Energy Systems and Management (ESM) XX.XXX Unrestricted Electives <small>Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CS0 and ESD websites for latest course offerings and pre-requisites</small>		HASS			
		30.100 Computational & Data-Driven Engineering <small>Pre Req: -10.014 or 10.020, -10.017, -10.018, -10.022</small>		HASS		30.102 Electro-magnetics & Apps <small>Pre Req: -10.013, -10.015, -10.018, -10.017</small>		HASS		30.108 Introduction to Material Science <small>Pre Req: -10.016, -10.019, -30.001</small>		30.109 Thermal Systems for Power & Environment <small>Pre Req: -10.023</small>		30.110 Digital Systems Lab <small>Pre Req: -10.014, -10.019, -30.002</small>		30.111 Entrepreneurship <small>Pre Req: NIL</small>		30.316 Digital Biomimetics: Sustainable & Manufacturing <small>Pre Req: -30.001, -30.007</small>		HASS		HASS		HASS		HASS		HASS		HASS		HASS		HASS											
HED	HEALTHCARE ENGINEERING DESIGN	30.001 Structure & Materials <small>Pre Req: -10.013, -10.015, -10.016</small>		30.002 Circuits & Electronics <small>Pre Req: -10.013, -10.017, -10.018</small>		30.007 Engineering Design Innovation <small>Pre Req: -03.007, -10.014</small>		30.101 Systems & Control <small>Pre Req: -30.002, -10.018</small>		HASS		30.203 Topics in Biomedical & Healthcare Engineering <small>Pre Req: -10.016, -10.019, -30.001</small>		30.104 Dynamics <small>Pre Req: -10.013, -10.018, -30.101</small>		30.105 Machine Element Design <small>Pre Req: -30.001</small>		30.106 Micro-electronics Circuits & Devices <small>Pre Req: -30.001</small>		30.107 Power Electronics <small>Pre Req: -10.013, -10.015, -10.018, -10.017, -30.002</small>		HASS		30.123 Healthcare Product Design <small>Pre Req: -03.007, -30.001, -30.002, -30.007, -30.101</small>		30.114 Advanced Feedback & Control <small>Pre Req: -30.101</small>		30.119 Intelligent Robotics <small>Pre Req: -30.101, -30.002, -30.014, -30.020</small>		30.120 Design & Manufacturing <small>Pre Req: -10.015</small>		CAPSTONE		30.113 Design and Fabrication of Microelectromechanical Systems <small>Pre Req: -03.007, -30.001, -30.002, -30.007, -30.101</small>		30.115 Digital Signal Processing <small>Pre Req: -10.007</small>		30.118 Optical Engineering & Communications <small>Pre Req: -30.017, -30.007, -30.101</small>		30.200 Micro- Nano Projects Laboratory <small>Pre Req: -30.101, -30.108</small>		30.201 Wireless Communications & Internet of Things <small>Pre Req: NIL</small>		CAPSTONE	
		30.100 Computational & Data-Driven Engineering <small>Pre Req: -10.014 or 10.020, -10.017, -10.018, -10.022</small>		HASS		30.102 Electro-magnetics & Apps <small>Pre Req: -10.013, -10.015, -10.018, -10.017</small>		30.103 Fluid Mechanics <small>Pre Req: -10.018, -3.007</small>		30.108 Introduction to Material Science <small>Pre Req: -10.016, -10.019, -30.001</small>		30.109 Thermal Systems for Power & Environment <small>Pre Req: -10.023</small>		30.110 Digital Systems Lab <small>Pre Req: -10.014, -10.019, -30.002</small>		30.111 Entrepreneurship <small>Pre Req: NIL</small>		30.316 Digital Biomimetics: Sustainable & Manufacturing <small>Pre Req: -30.001, -30.007</small>		HASS		HASS		HASS		HASS		HASS		HASS		HASS		HASS		HASS									
B14	BEYOND INDUSTRY 4.0	30.001 Structure & Materials <small>Pre Req: -10.013, -10.015, -10.016</small>		30.002 Circuits & Electronics <small>Pre Req: -10.013, -10.017, -10.018</small>		30.007 Engineering Design Innovation <small>Pre Req: -03.007, -10.014</small>		30.101 Systems & Control <small>Pre Req: -30.002, -10.018</small>		HASS		30.108 Introduction to Material Science <small>Pre Req: -10.016, -10.019, -30.001</small>		30.105 Machine Element Design <small>Pre Req: -30.001</small>		30.109 Thermal Systems for Power & Environment <small>Pre Req: -10.023</small>		30.110 Digital Systems Lab <small>Pre Req: -10.014, -10.019, -30.002</small>		30.316 Digital Biomimetics: Sustainable & Manufacturing <small>Pre Req: -30.001, -30.007</small>		CS0 -10.112 Machine Learning (CS0) -10.042 Foundations of Cybersecurity ESD -10.002 Optimisation <small>Note: Please refer to CS0 and ESD websites for latest course offerings and pre-requisites</small>		30.303 Industry 4.0 & 3D Printing <small>Pre Req: -NIL</small>		30.114 Advanced Feedback & Control <small>Pre Req: -30.101</small>		30.119 Intelligent Robotics <small>Pre Req: -30.101, -30.002, -30.014, -10.020</small>		30.120 Design & Manufacturing <small>Pre Req: -10.015</small>		CAPSTONE		30.115 Digital Signal Processing <small>Pre Req: -10.007</small>		30.201 Wireless Communications & Internet of Things <small>Pre Req: -NIL</small>		CAPSTONE		HASS		30.106 Engineering Management (EPD) 30.102 Energy Systems and Management (ESM) XX.XXX Unrestricted Electives <small>Note: These courses count as Unrestricted Electives (maximum 3 per track) Please refer to CS0 and ESD websites for latest course offerings and pre-requisites</small>			
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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.