

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 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 minimum of 4 subjects in this term		Required to enroll in Restricted Track Elective Required to enroll in 2 Pillar Electives Required to enroll in 1 HASS subject Required to enroll minimum of 4 subjects in this term 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 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					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												
Restrictions:	PILLAR CORE		PILLAR CORE		RESTRICTED TRACK ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE		PILLAR ELECTIVE			
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	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or 10.020, -10.017, -10.018, -10.022	30.101 Systems & Control Pre Req: -10.002, -10.018	HASS	30.100 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: -10.019, -10.015, -10.018, -10.017, -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, -10.002, -10.007, -10.101	30.202 Design of Intelligent Digital Integrated Circuits & Systems Pre Req: -10.002	30.105 User Interface Design and Implementation 30.050 Network Security 30.055 Computer Vision Note: Please refer to CSD's website for the latest course offerings and subject pre-requisites	CAPSTONE	30.105 Design and Manufacturing (EPO) 30.101 Technologies for Sustainable Global Health (DMT) 30.100 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	30.201 Wireless Communications & Internet of Things Pre Req: -NIL	30.115 Digital Signal Processing Pre Req: -10.007	30.021 Graphics and Visualization 30.022 Artificial Intelligence Note: Please refer to CSD's website for the latest course offerings and subject pre-requisites	CAPSTONE	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.019, -10.015, -10.018, -10.017	HASS	CROSS-PILLAR ELECTIVE CSD -30.002 Information Systems & Programming -30.002 Computational Structures -30.004 Algorithms -30.007 Machine Learning ESD 40.318 Statistical and Machine Learning Note: Please refer to CSD and ESD websites for latest course offerings and pre-requisites	30.102 Electro-magnetics & Apps Pre Req: -10.019, -10.015, -10.018, -10.017	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	HASS	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	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or 10.020, -10.017, -10.018, -10.022	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, -10.001	30.105 Machine Element Design Pre Req: -10.001	30.106 Micro-electronics Circuits & Devices Pre Req: -10.013, -10.015, -10.018, -10.017, -10.002	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, -10.101, -10.102, -10.004, -10.000	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE	30.113 Design and Fabrication of Microelectromechanical Systems Pre Req: -10.007, -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, -10.002, -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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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
HEALTHCARE ENGINEERING DESIGN	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.019, -10.015, -10.018, -10.017	30.103 Fluid Mechanics Pre Req: -10.015, -10.018, -10.007	HASS	30.108 Introduction to Material Science Pre Req: -10.016, -10.019, -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	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, -10.101, -10.102, -10.004, -10.000	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE	30.113 Design and Fabrication of Microelectromechanical Systems Pre Req: -10.007, -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, -10.002, -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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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
BI4	30.001 Structure & Materials Pre Req: -10.013, -10.015, -10.016	30.002 Circuits & Electronics Pre Req: -10.013, -10.017, -10.018	30.100 Computational & Data-Driven Engineering Pre Req: -10.014 or 10.020, -10.017, -10.018, -10.022	30.101 Systems & Control Pre Req: -10.002, -10.018	HASS	30.108 Introduction to Material Science Pre Req: -10.016, -10.019, -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	CROSS-PILLAR ELECTIVE CSD -01.112 Machine Learning -02.042 Foundations of Cybersecurity ESD 40.002 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, -10.101, -10.102, -10.004, -10.000	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE	30.113 Design and Fabrication of Microelectromechanical Systems Pre Req: -10.007, -10.001, -10.002, -10.007, -10.101	30.115 Digital Signal Processing Pre Req: -10.007	30.201 Wireless Communications & Internet of Things Pre Req: -NIL	CAPSTONE	HASS	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	
BEYOND INDUSTRY 4.0	30.007 Engineering Design Innovation Pre Req: -10.007, -10.014	HASS	30.102 Electro-magnetics & Apps Pre Req: -10.019, -10.015, -10.018, -10.017	30.103 Fluid Mechanics Pre Req: -10.015, -10.018, -10.007	HASS	30.108 Introduction to Material Science Pre Req: -10.016, -10.019, -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	CROSS-PILLAR ELECTIVE CSD -01.112 Machine Learning -02.042 Foundations of Cybersecurity ESD 40.002 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, -10.101, -10.102, -10.004, -10.000	30.120 Design & Manufacturing Pre Req: -10.015	CAPSTONE	30.113 Design and Fabrication of Microelectromechanical Systems Pre Req: -10.007, -10.001, -10.002, -10.007, -10.101	30.115 Digital Signal Processing Pre Req: -10.007	30.201 Wireless Communications & Internet of Things Pre Req: -NIL	CAPSTONE	HASS	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	30.106 Engineering Management (EPO) 30.102 Energy Systems and Management (ESM) 30.100 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	

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.
 -Enrolment into courses are subject to fulfillment of pre-requisites and availability.