

Class of 2020 - Term 7 - Spring 2019 Semester

Course	Civil	Instructor
7704	Design of Steel Structures	Adluri S
7713	Hydrology and Water Resources	Daraio, J
7745	Highway Engineering	Hossain, K
<u>Choose two electives from the following options:</u>		
7718	Environmental Geotechniques	Zhang, H
7706	Finite Element Analysis	Adluri S
7716	Hydrotechnical Engineering	Abdel-Razek, A
7723	Geotechnical Engineering III	Dhar, A

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Computer

7804	Computer Engineering Design Project I	Czarnuch, S
7824	Introduction to Digital Signal Processing	Power, S
7894	Concurrent Programming	Ul-Hasan, M

Choose two electives from the following options:

7825	Control Systems II	O'Young, S
7854	Image Processing and Applications	Karami, E
7864	Computer Security	Anderson, J
7952	Robotics and Automation	Mann, G
8680	Process Control and Instrumentation	Iqbal T.
8863	Introduction to LSI Design/ASIC Design	Zhang, L

Computer Science electives as approved by ECE Department Head

Students in the Biomedical stream, who have taken HKR 2311, should take

MED 6250 and one of 7825, 7854, 7864, 7952

Prior to term 8, students are advised to consider completing as much as possible of:

[- complementary studies requirements](#)

[- free elective requirements](#)

(during either term 7 or the fall work term).

Electrical

7803	Electrical Engineering Design Project I	Czarnuch, S
7824	Introduction to Digital Signal Processing	Power, S

Choose three electives from the following options:

7825	Control Systems II	O'Young, S
7844	Power System Analysis	Jeyasurya, B.
7854	Image Processing and Applications	Karami, E
7856	Renewable Energy Systems	Iqbal T.
7952	Robotics and Automation	Mann, G
8680	Process Control and Instrumentation	Iqbal T.

Students in the Biomedical stream, who have taken HKR 2311, should take

MED 6250, one of 7825, 7854, 7952 and one other technical elective.

Prior to term 8, students are advised to consider completing as much as possible of:

[- complementary studies requirements](#)

[- free elective requirements](#)

(during either term 7 or the fall work term).

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Mechanical

Mechanical Core - All students are required to take:

7926	Mechanical Project I	De Silva, O
7930	Instrumentation and Experimental Design	De Silva, O

Plus one Free Elective from below:

Business 3630 - New Venture Creation (strongly suggested by Memorial's Center for Entrepreneurship (MCE) for entrepreneurship based ENGI 8926 projects)

Any 2000* level or higher University course. Any 3000*level or higher Engineering course. *Requires the approval of Department Head

Students are required to select a stream path below, since many Term 8

Technical Electives require Term 7 courses as pre-requisites:

Students who choose to opt out of the Biomed stream in Term 7, HKR 2311 will count towards the Free elective

Mechanics and Materials**All stream students are required to take:**

7911	Industrial Materials	Rafieazad, M
7929	Mechanical Components Design II	Yang, J

Plus one Technical Elective from below:

7934	Finite Element Analysis	Adluri, S
8971	Welding and Joining	Nasiri, A

Thermal Fluids**All stream students are required to take:**

7901	Heat Transfer II	Pope K.
7903	Mechanical Equipment	Nyantekyi-Kwakye, B

Plus one Technical Elective from below:

7934	Finite Element Analysis	Adluri, S
8970	Gas Dynamics	Nikapitiya, J

Mechatronics**All stream students are required to take:**

7929	Mechanical Components Design II	Yang, J
7953	Mechatronics II	Al Janaideh, M

Plus one Technical Elective from below:

7825	Controls II	O'Young, S
7854	Image Processing and Applications	Karami, E
7952	Robotics & Automation	Mann, G

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Petroleum Technical Stream**All stream students are required to take:**

8691 Advanced Petroleum Production Engineering Zendehboudi, S

Plus one Technical Elective from below:

7903 Mechanical Equipment Nyantekyi-Kwakye, B

8671 Safety and Risk Engineering (distance) KhanF/TBA

8970 ~~Gas Dynamics-~~ Nikapitiya, J**Biomedical Stream Stream****All stream students are required to take:**

MED 6250 Clinical Research Czarnuch, S

HKR 2311 Anatomy and Physiology (MUST have been taken in Winter 2018 by distance)

Plus one Technical Elective from below:

7854 Image Processing and Applications Karami, E

7952 Robotics & Automation Mann, G

7934 Finite Element Analysis Adluri, S

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ONAE

7000	Ocean Systems Design	Molyneux, D
7007	Ocean Engineering Materials	Quinton, B
7033	Marine Hydrodynamics	Peng H.
7035	Seakeeping and Maneuvering of ocean Vehicles	Peng, H
<u>Choose one elective from the following options:</u>		
7706	Finite Element Analysis	Adluri, S
7934	Finite Element Analysis	Adluri, S
7003	Small Craft Design	Walker, D
8691	Advanced Petroleum Production Engineering	Zendehboudi, S
Or a technical Elective approved by the Department Head		

Process

7621	Process Dynamics and Control	Ahmed S.
7640	Process Engineering Project I	Ahmed, S
8677	Process Plant Design and Economics	Sripal, E

In addition to the three required course listed above, all students must register for two Technical Stream Courses. The recommended courses are as follows:

Petroleum Technical Stream

8694/8696	Downstream Processing/Petroleum Refining Engineering	Jafari, S
7623	Process Simulation	Zhang, Yahui
<u>Choose one electives from the following options:</u>		
8671	Safety and Risk Engineering (Distance)	KhanF/Taleb-Berrouanc,M
8691	Advanced Petroleum Production Engineering	Zendehboudi, S

Process Technical Stream

7623	Process Simulation	Zhang, Yahui
8671	Safety and Risk Engineering (Distance)	KhanF/Taleb-Berrouanc,M
