

**TERM 8 - CLASS OF 2024 - Winter 2024**

**COMPLEMENTARY STUDIES**

Course #		Course Name	Instructor
ENGI	4102	Engineering Economics	Shekari, E.
ENGI	8151	Technology, Sustainable Society and International Development	Hurley, S.
ENGI	8155	Ethics in a Technological World	Rosales, J.

<b>CIVIL</b>		
Course #	Course Name	Instructor

**Required:**

ENGI	8152(004)	Engineering Professionalism II	Rosales, J. / Hallett, N.
CIV	8000	Civil Engineering Project - multiple sections	Bruneau, S. , Peach, B
CIV	8830	Contract Law and Labour Relations	Wellon, R.

**Technical Electives - choose three electives in total**

**Choose up to 3 electives from:**

CIV	8550	Structural Building Systems	Adluri, S
CIV	8150	Municipal Engineering	Cancelled
CIV	8630	Environmental Assessment	Saady, N
CIV	8570	Coastal and Ocean Engineering	Bruneau, S
CIV	8580	Subsea Pipeline Engineering	Not Offered

**Choose up to 1 elective from:**

ONAE	8074	Arctic Ocean Engineering	Quinton, B
PROC	8276	Design of Natural Gas Handling Equipment	Aborig,A
PROC	8170	Reliability Engineering	Shah, Md Shaheen
PROC	8291	Reservoir Engineering	Aborig,A

**COMPUTER**

Required:				
ENGI	8152(002)	Engineering Professionalism II	Rosales, J. / Hallett, N.	
ECE	8010	CoE Design Project	Peters, D	
ECE	8400	RT Operating Sys / Embedded and RT Systems Design	Anderson, J.	
Technical Electives (choose 2):				
ECE	8210	Supervisory Control and Data Acquisition	Masek, V	
ECE	8410	Computer Vision	Hamilton, M.	
ECE	8620	Wireless and Mobile Communications	Wanasinghe, T	
ECE	8600	Design of Digital Signal Processing Systems	Karami, E.	
ECE	8610	Filter Synthesis	Power, S	
ECE	8420	<del>Cryptography</del>	<del>Heys, H</del>	Cancelled
ENGI	8112	<del>Sp Tpes in Engineering</del>	<del>Moloney, C</del>	Cancelled
Computer Science elective (must be approved by Department Head)				
ENGI	8103	Engineering in Medicine	Power, Czarnuch, Nakhla	
Free Elective:				
<a href="#">approved by Department Head</a>				
<b>Biomedical Stream students only</b>				
HKR	4703-002	Occupational Ergonomics and Sport Biomechanics	Byrne, J	
6 credit hours from: ECE 8410, 8600, other courses as specified by the Department Head				

**ELECTRICAL**

Required:				
ENGI	8152(002)	Engineering Professionalism II	Rosales, J. / Hallett, N.	
ECE	8000	EE Design Project	Peters, D	
ECE	8610	Filter Synthesis	Power, S	
Technical Electives (choose 2):				
ECE	5500	Digital Systems	Wanasinghe, T	
ECE	8210	Supervisory Control and Data Acquisition	Masek, V	
ECE	8410	Computer Vision	Hamilton, M.	
ECE	8600	Design of Digital Signal Processing Systems	Karami, E.	
ECE	8620	Wireless and Mobile Communications	Wanasinghe, T	
ENGI	8103	Engineering in Medicine	Power, Czarnuch, Nakhla	
ECE	8700	<del>Antennas</del>	<del>Al-Habashneh, A</del>	Cancelled
ENGI	8112	<del>Sp Tpes in Engineering</del>	<del>Moloney, C</del>	Cancelled
Free Elective:				
<a href="#">approved by Department Head</a>				
<b>Biomedical Stream students only</b>				
HKR	4703-002	Occupational Ergonomics and Sport Biomechanics	Byrne, J	
6 credit hours from: ECE 8410, 8600, other courses as specified by the Department Head				

**MECHANICAL**

		Required:	
ENGI	8152(001)	Engineering Professionalism II	Rosales, J. / Hallett, N.
ME	8705	Mechanical Project II	Nakhla, S.
		<b>9 credit hours from Technical Stream Courses</b>	
		<b>Students may experience scheduling difficulties if courses are selected from more than one technical stream.</b>	
		<b>Complementary studies course may be taken out of term if not yet completed as per Complementary Studies Self Audit form.</b>	
		<b><u>Mechanics and Materials</u></b>	
		<b><u>All stream students are required to take:</u></b>	
ME	8604	Fatigue and Fracture	El-Ruby, A.
		<b><u>Plus two technical electives from below:</u></b>	
ME	8106	Corrosion and Corrosion Control	Alidokht, S.
ME	8304	Machine Dynamics	Yang, J.
ME	8305	Modelling and Simulation of Dynamic Systems	Rideout, G.
ME	8606	Mechanical Behaviour of Composites	Nakhla, S.
ME	8902	Arctic Offshore Engineering	Taylor, R.
		<b><u>Mechatronics</u></b>	
		<b><u>All stream students are required to take:</u></b>	
ME	8305	Modelling and Simulation of Dynamic Systems	Rideout, G.
		<b><u>Plus two technical electives from below:</u></b>	
ENGI	8103	Engineering in Medicine	Nakhla, S.
ECE	8410	Computer Vision	Karami, E.
ECE	8610	Filter Synthesis	Power, S.
ME	8304	Machine Dynamics	Yang, J.
		<b><u>Petroleum Technical Stream</u></b>	
		<b><u>All stream students are required to take:</u></b>	
PROC	8291	Reservoir Engineering	Aborig, A.
		<b><u>Plus two technical electives from below:</u></b>	
PROC	8276	Design of Natural Gas Handling Equipment	Aborig, A.
PROC	8292	Drilling Engineering for Petr. Explor. & Prod.	Lin, C.
ME	8106	Corrosion and Corrosion Control	Alidokht, S.
ME	8902	Arctic Offshore Engineering	Taylor, R.
		<b><u>Thermo Fluids</u></b>	
		<b><u>All stream students are required to take:</u></b>	
ME	8406	Design of Thermal Systems	TBD
		<b><u>Plus two technical electives from below:</u></b>	
ME	8407	Sustainable Energy Systems	Pope, K.
ME	8504	Computational Fluid Mechanics	TBD
ME	8506	Advanced Fluid Dynamics	Duan, X.
		<b><u>Biomedical Stream</u></b>	
		<b><u>All stream students are required to take:</u></b>	
HKR	4703	Occupational Ergonomics and Sport Biomechanics	Byrne, J.
		<b><u>Plus two technical electives from below:</u></b>	
ENGI	8103	Engineering in Medicine	Nakhla, S.
ENGI	8108	Human Factors and System Safety	Smith, D.
ECE	8410	Computer Vision	Karami, E.
ME	8504	Computational Fluid Mechanics	TBD
		<b>* Other courses may be taken with approval of Department Head</b>	

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**ONAE**

## Required:

ENGI	8152(005)	Engineering Professionalism II	Rosales, J. / Hallett, N.
ONAE	8000	ONAE Project	Veitch, B

## Technical Electives (choose 3):

ONAE	8034	Applied Acoustics	Moro, L
ONAE	8054	Advanced Marine Vehicles	Molyneux, D
ONAE	8074	Arctic Ocean Engineering	Quinton, B
ONAE	8075	Finite Element Analysis of Marine Structures	Quinton, B
ENGI	8108	Human Factors and System Safety	Smith, D.

Other courses with permission from the Department Head

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**PROCESS**

ENGI	8152(003)	Engineering Professionalism II	Rosales, J. / Hallett, N.
PROC	8040	Process Engineering Project	Ahmed, S
		<b><u>Process Technical Stream</u></b>	
PROC	8141	Bioprocess Engineering II	Zhang, Yan
PROC	8151	Industrial Pollution Control	Zhang, Yahui
PROC	8293	Extractive Metallurgy	Zhang, Yahui
		<b>Choose one of:</b>	
ME	8106	Corrosion and Corrosion Control	Alidokht, S.
		<b><u>Petroleum Technical Stream</u></b>	
PROC	8291	Sustainable Oil Production & Gas Storage II	Aborig, A
PROC	8292	Drilling Engineering	Lin, Cui
		<b>Choose one of:</b>	
PROC	8170	Reliability Engineering	Shah, Md Shaheen.
PROC	8276	Decarbonization Strategies in the Gas Industry	Aborig, A

**One Free Elective**

one free elective which must be a 5000-level or higher Engineering course, or a 2000-level or higher course either from the Faculty of Arts or the Faculty of Science or a 3000-level or higher course from the Faculty of Business Administration. Selection of a course must be approved by the Department Head.

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