

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES

## PRE-2019 COMMENCER STUDY PLAN



School of Chemical Engineering

### Semester 1 Start

[Bachelor of Engineering \(Honours\) \(Chemical\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical - Minerals Processing\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical - Sustainable Energy\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical and Pharmaceutical\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) and Bachelor of Arts](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Finance](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Mathematical and Computer Sciences \(Computer Science Major\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Mathematical and Computer Sciences \(Maths Major\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Science](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Science \(Biotechnology\)](#)

### Semester 2 Start

[Bachelor of Engineering \(Honours\) \(Chemical\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical - Minerals Processing\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical - Sustainable Energy\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical and Pharmaceutical\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) and Bachelor of Arts](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Finance](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Mathematical and Computer Sciences \(Computer Science Major\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Mathematical and Computer Sciences \(Maths Major\)](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Science](#)

[Bachelor of Engineering \(Honours\) \(Chemical\) with Bachelor of Science \(Biotechnology\)](#)

International students in the School of Chemical Engineering undertake the course CHEM ENG 1010 Professional Practice 1 so are exempt from having to undertake ENG 3003 Engineering Communication EAL.

PRE-2019 COMMENCER STUDY PLAN

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**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL)**

YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <input type="checkbox"/> or GEOLOGY 1103 Building a Habitable Planet or GEOLOGY 1104 Geology for Engineers 1 <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling <input type="checkbox"/> or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Elective <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Elective <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

CHOOSE FROM THE FOLLOWING ELECTIVES

CHOOSE FROM THE FOLLOWING ELECTIVES			
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>
			CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Waste <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2 and MATHS 1012 Mathematics IB in Summer School..

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) – Semester 2 Start**

YEAR 1	S 2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I ENG 1001 Introduction to Engineering <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling ENG 1003 Programming (Matlab and Excel) <input type="checkbox"/>
		MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells or GEOLOGY 1103 Building a Habitable Planet or GEOLOGY 1104 Geology for Engineers 1 <input type="checkbox"/>
YEAR 2	S 1	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
	S 2	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
YEAR 3	S 1	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S 2	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>
YEAR 4	S 1	CHEM ENG 4014 Plant Design Project (6 units)		CHEM ENG 4054 Research Project <input type="checkbox"/>	Elective <input type="checkbox"/>
	S 2	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Elective <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
YEAR 5	S 1				

PRE-2019 COMMENCER STUDY PLAN

CHOOSE FROM THE FOLLOWING ELECTIVES

CHOOSE FROM THE FOLLOWING ELECTIVES				
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes (3 units) <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Waste <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL - MINERALS PROCESSING)					
YEAR 1	S1	MATHS 1011 Mathematics 1A # <input type="checkbox"/>	CHEM 1100 Chemistry 1A <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	GEOLOGY 1104 Geology for Engineers 1 <input type="checkbox"/> <b>GEOLOGY 1103 Building a Habitable Planet</b>
	S2	MATHS 1012 Mathematics 1B <input type="checkbox"/>	CHEM 1200 Chemistry 1B <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4 (indicative only)	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>

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\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

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**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL - MINERALS PROCESSING) – Semester 2 Start**

YEAR 1	S	MATHS 1011 Mathematics 1A # <input type="checkbox"/>	CHEM 1200 Chemistry 1B <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
	S 2	MATHS 1012 Mathematics 1B <input type="checkbox"/>	CHEM 1100 Chemistry 1A <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	GEOLOGY 1104 Geology for Engineers <input type="checkbox"/> <b>GEOLOGY 1103 Earth Systems</b> <input type="checkbox"/>
YEAR 2	S 1	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
	S 2	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
YEAR 3	S 1	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S 2	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>
YEAR 4	S 1	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>
	S 2	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>

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\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

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BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL - SUSTAINABLE ENERGY)					
YEAR 1	S1	MATHS 1011 Mathematics 1A # <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry 1A * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	GEOLOGY 1103 Building a Habitable Planet or GEOLOGY 1104 Geology for Engineers ± <input type="checkbox"/>
	S2	MATHS 1012 Mathematics 1B <input type="checkbox"/>	CHEM 1200 Chemistry 1B or CHEM 1201 Foundations of Chemistry 1B * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	MECH ENG 3105 Sustainability & the Environment <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	ENTREP 3006 Energy Management, Economics & Policy <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>

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BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL - SUSTAINABLE ENERGY) – Semester 2 Start					
YEAR 1	S 2	MATHS 1011 Mathematics 1A # <input type="checkbox"/>	CHEM 1200 Chemistry 1B <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry 1B * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
	S 1	MATHS 1012 Mathematics 1B <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry 1A * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	GEOLOGY 1103 Building a Habitable Planet <input type="checkbox"/> or GEOLOGY 1104 Geology for Engineers ± <input type="checkbox"/>
YEAR 2	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling <input type="checkbox"/> or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	MECH ENG 3105 Sustainability & the Environment <input type="checkbox"/>
YEAR 3	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>
YEAR 4	S 2	CHEM ENG 4014 Plant Design Project (6 units)		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>
	S 1	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	ENTREP 3006 Energy Management, Economics & Policy <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
YEAR 5	S 1				

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2 and MATHS 1012 Mathematics IB in Summer School.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

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This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL AND PHARMACEUTICAL)					
YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA* <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <input type="checkbox"/> or BIOLOGY 1401 Concepts in Biology ** <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB* <input type="checkbox"/>	<del>CHEM ENG 1010 Professional Practice I</del> <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	BIOLOGY 1201 Biology I: Human Perspectives <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2510 Chemistry IIA <input type="checkbox"/> or CHEM 2530 Environmental & Analytical Chemistry II *** <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2012 Pharmaceutical Production Processes <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	<del>CHEM ENG 1011 Introduction to Process Modelling</del> <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	HLTH SC 2104 Essential Understanding of Disease and Treatment <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4060 Pharmaceutical Formulation and Manufacturing <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4036 Pharmaceutical Process Validation & Quality <input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

\* Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Due to pre-requisite requirements, students who have not completed Year 12 SACE Stage 2 Chemistry (or have achieved lower than a C+ grade) must enrol in BIOLOGY 1401 Concepts in Biology. Students who have completed Year 12 SACE Stage 2 Chemistry (with a grade of C+ or higher) can choose to take either BIOLOGY 1101 Biology I: Molecules, Genes and Cells or BIOLOGY 1401 Concepts in Biology. Students can do either BIOLOGY 1101 or BIOLOGY 1401 in semester 1 to move onto BIOLOGY 1201 Human Perspectives in semester 2.

\*\*\*Due to pre-requisite requirements, students who have undertaken and passed CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB are not permitted to enrol in CHEM 2510 Chemistry IIA and must enrol in CHEM 2530 Environmental & Analytical Chemistry II. Students who have undertaken and passed CHEM 1100 Chemistry IA and 1200 Chemistry IB have the option of enrolling either CHEM 2510 Chemistry IIA or CHEM 2530 Environmental & Analytical Chemistry II.

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**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL AND PHARMACEUTICAL) – Semester 2 Start**

YEAR 1	S2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB* <input type="checkbox"/>	<del>CHEM ENG 1010 Professional Practice I</del> <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	BIOLOGY 1201 Biology I: Human Perspectives <input type="checkbox"/>
		MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA* <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <input type="checkbox"/> or BIOLOGY 1401 Concepts in Biology ** <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2012 Pharmaceutical Production Processes <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	<del>CHEM ENG 1011 Introduction to Process Modelling</del> <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
	S2	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2510 Chemistry IIA <input type="checkbox"/> or CHEM 2530 Environmental & Analytical Chemistry II *** <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S2	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4036 Pharmaceutical Process Validation & Quality <input type="checkbox"/>
	S2	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 4060 Pharmaceutical Formulation and Manufacturing <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>	HLTH SC 2104 Essential Understanding of Disease and Treatment <input type="checkbox"/>
YEAR 5	S1				

## PRE-2019 COMMENCER STUDY PLAN

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\* Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Due to pre-requisite requirements, students who have not completed Year 12 SACE Stage 2 Chemistry (or have achieved lower than a C+ grade) must enrol in BIOLOGY 1401 Concepts in Biology. Students who have completed Year 12 SACE Stage 2 Chemistry (with a grade of C+ or higher) can choose to take either BIOLOGY 1101 Biology I: Molecules, Genes and Cells or BIOLOGY 1401 Concepts in Biology. Students can do either BIOLOGY 1101 or BIOLOGY 1401 in semester 1 to move onto BIOLOGY 1201 Human Perspectives in semester 2.

\*\*\*Due to pre-requisite requirements, students who have undertaken and passed CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB are not permitted to enrol in CHEM 2510 Chemistry IIA and must enrol in CHEM 2530 Environmental & Analytical Chemistry II. Students who have undertaken and passed CHEM 1100 Chemistry IA and 1200 Chemistry IB have the option of enrolling either CHEM 2510 Chemistry IIA or CHEM 2530 Environmental & Analytical Chemistry II.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) AND BACHELOR OF ARTS					
YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA* <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells or GEOLOGY 1103 Earth Systems I or GEOLOGY 1104 Geology for Engineers I <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB* <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	ARTS 1007 The Enquiring Mind: Freedom and Media <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Arts Major Level I <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
YEAR 5	S1	Arts Major Level I or II <input type="checkbox"/>	Arts Elective Level II <input type="checkbox"/>	Arts Major Level II <input type="checkbox"/>	Arts Major Level II <input type="checkbox"/>

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

S2	Arts Major Level III <input type="checkbox"/>	Arts Major Level III <input type="checkbox"/>	Arts Major Level III Capstone course (6 units) <input type="checkbox"/>
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CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES				
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2 and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

Arts Electives may be chosen from those listed in the Program Rules for the degree of Bachelor of Arts. Students must complete a major in accordance with the Program Rules for the Bachelor of Arts. Students commencing prior to 2016 may follow an earlier study plan or contact the Faculty of Arts for enrolment advice.



PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) AND BACHELOR OF ARTS – Semester 2 Start**

YEAR 1	S				
	2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB* <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
YEAR 2	S	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA* <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells or GEOLOGY 1103 Earth Systems I or GEOLOGY 1104 Geology for Engineers I <input type="checkbox"/>
	S	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling or CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
YEAR 3	S	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>
	S	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	ARTS 1007 The Enquiring Mind: Freedom and Media <input type="checkbox"/>
	S	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective(3units) <input type="checkbox"/>
YEAR 5	S	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Arts Major Level I <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S	Arts Major Level I or II <input type="checkbox"/>	Arts Elective Level II <input type="checkbox"/>	Arts Major Level II <input type="checkbox"/>	Arts Major Level II <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

YEAR 6	S 1	Arts Major Level III <input type="checkbox"/>	Arts Major Level III <input type="checkbox"/>	Arts Major Level III Capstone course (6 units) <input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2 and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

Arts Electives may be chosen from those listed in the Program Rules for the degree of Bachelor of Arts. Students must complete a major in accordance with the Program Rules for the Bachelor of Arts. Students commencing prior to 2016 may follow an earlier study plan or contact the Faculty of Arts for enrolment advice.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF FINANCE					
YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	ACCTING 1002 Introductory Accounting I <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	ECON 1012 Principles of Economics I <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CORPFIN 1002 Business Finance I <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	ECON 1009 International Financial Institutions & Markets I <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	ECON 2504 Intermediate Econometrics II or MATHS 2103 Probability & Statistics II <input type="checkbox"/>
	S2	CHEM ENG 4054 Research Project <input type="checkbox"/>	CORPFIN 2501 Financial Institutions Management II <input type="checkbox"/>	Level III Finance Elective <input type="checkbox"/>	CORPFIN 2502 Business Valuation II <input type="checkbox"/>
YEAR 5	S1	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>	CORPFIN 3501 Portfolio Theory & Management III <input type="checkbox"/>	Level III Finance Elective <input type="checkbox"/>	ECON 2508 Financial Economics II <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		Engineering Elective <input type="checkbox"/>	CORPFIN 3502 Options, Futures & Risk Management III or MATHS 3012 Financial Modelling: Tools & Techniques III ** <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES				
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Either one of these courses can also be taken in lieu of a Level III Finance elective.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF FINANCE – Semester 2 Start					
YEAR 1	S 2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
	S 1	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	ACCTING 1002 Introductory Accounting I <input type="checkbox"/>
YEAR 2	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	ECON 1012 Principles of Economics I <input type="checkbox"/>
	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CORPFIN 1002 Business Finance I <input type="checkbox"/>
YEAR 3	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S 1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	ECON 1009 International Financial Institutions & Markets I <input type="checkbox"/>
YEAR 4	S 2	Engineering Elective <input type="checkbox"/>	CORPFIN 2501 Financial Institutions Management II <input type="checkbox"/>	Level III Finance Elective <input type="checkbox"/>	CORPFIN 2502 Business Valuation II <input type="checkbox"/>
	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	ECON 2504 Intermediate Econometrics II or MATHS 2103 Probability & Statistics <input type="checkbox"/>
YEAR 5	S 2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CORPFIN 3502 Options, Futures & Risk Management III or MATHS 3012 Financial Modelling: Tools & Techniques III ** <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

YEAR 6	S 1	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>	CORPFIN 3501 Portfolio Theory & Management III <input type="checkbox"/>	Level III Finance Elective <input type="checkbox"/>	ECON 2508 Financial Economics II <input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester I, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Either one of these courses can also be taken in lieu of a Level III Finance elective.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF MATHEMATICAL AND COMPUTER SCIENCES (Computer Science Major)**

YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	COMP SCI 1201 Introduction to Programming for Engineers <input type="checkbox"/> <b>ENG 1003 Programming (Matlab &amp; Excel)</b>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Maths IIA <input type="checkbox"/>	COMP SCI 2103 Algorithm Design & Data Structures <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	COMP SCI 2201 Algorithm & Data Structure Analysis <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 2013 Advanced Process Modelling <input type="checkbox"/>
YEAR 4	S1	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>	Level II or III Computer Science Elective + <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>	COMP SCI 2000 Computer Systems <input type="checkbox"/>
	S2	CHEM ENG 3033 Separation Processes <input type="checkbox"/>	COMP SCI 3006 Software Engineering & Project <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>
YEAR 5	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

### CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES				
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Waste Water Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

+Level III Computer Science Elective may be chosen from those listed in the Program Rules for the degree of Bachelor of Mathematical and Computer Sciences

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester I, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.



PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF MATHEMATICAL AND COMPUTER SCIENCES (Computer Science Major) – Semester 2 Start**

YEAR 1	S	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	COMP SCI 1201 Introduction to Programming for Engineers – <b>ENG 1003 Programming (Matlab &amp; Excel)</b> <input type="checkbox"/>
	S 2				
YEAR 2	S 1	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>
	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
YEAR 3	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Maths IIA <input type="checkbox"/>	COMP SCI 2103 Algorithm Design & Data Structures <input type="checkbox"/>
	S 2	CHEM ENG 2013 Advanced Process Modelling <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	COMP SCI 2201 Algorithm & Data Structure Analysis <input type="checkbox"/>
YEAR 4	S 1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	COMP SCI 2000 Computer Systems <input type="checkbox"/>
	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>	COMP SCI 3006 Software Engineering & Project <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>
YEAR 5	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S 2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

YEAR 6	S 1	Level II or III Computer Science Elective + <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>	Level III Computer Science Elective + <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
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### CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Waste Water Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

+Level III Computer Science Elective may be chosen from those listed in the Program Rules for the degree of Bachelor of Mathematical and Computer Sciences

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester I, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF MATHEMATICAL AND COMPUTER SCIENCES (Maths Major)**

YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <b>or</b> <input type="checkbox"/> CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <b>or</b> GEOLOGY 1103 Building a Habitable Planet <b>or</b> GEOLOGY 1104 Geology for Engineers 1 <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <b>or</b> CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	MATHS 2202 Engineering Mathematics IIB <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	Level III Mathematics Elective * <input type="checkbox"/>	Level III Mathematics Elective + <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
	S2	Level III Mathematics Elective * <input type="checkbox"/>	Level III Mathematics Elective + <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
YEAR 5	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

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S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>	CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
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CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Waste Water Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

+Please refer to the program rules for the definition of an Applied Maths, Pure Maths, Statistics or Mathematical Sciences major. Refer to the degree finder for elective choices.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF MATHEMATICAL AND COMPUTER SCIENCES (Maths Major) – Semester 2 Start**

YEAR 1	S 2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1010 Professional Practice I <input type="checkbox"/> <b>ENG 1001 Introduction to Engineering</b> <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>
	S 1	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells or GEOLOGY 1103 Building a Habitable Planet or GEOLOGY 1104 Geology for Engineers 1 <input type="checkbox"/>
YEAR 2	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	MATHS 2202 Engineering Mathematics IIB <input type="checkbox"/>
	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	CHEM 2530 Environmental & Analytical Chemistry II <input type="checkbox"/>
YEAR 3	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
	S 1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
YEAR 4	S 2	Level III Mathematics Elective * <input type="checkbox"/>	Level III Mathematics Elective + <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
YEAR 5	S 2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

YEAR 6	S	Level III Mathematics Elective *	Level III Mathematics Elective +	Level II or III Mathematics Elective	Level II or III Mathematics Elective
	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Waste Water Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

+Please refer to the program rules for the definition of an Applied Maths, Pure Maths, Statistics or Mathematical Sciences major. Refer to the degree finder for elective choices.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester I, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF SCIENCE					
YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	Level I Science Elective <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM-ENG-1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S1	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>
	S2	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>
YEAR 5	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES				
SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.



PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF SCIENCE – Semester 2 Start					
YEAR 1	S 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM-ENG-1011 Introduction to Process Modelling ENG 1003 Programming (Matlab and Excel) <input type="checkbox"/>
YEAR 2	S 1	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	Level I Science Elective <input type="checkbox"/>
	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>
YEAR 3	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	Level II Science Elective <input type="checkbox"/>
	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 4	S 1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S 2	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>
YEAR 5	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>
	S 2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	Engineering Elective <input type="checkbox"/>

PRE-2019 COMMENCER STUDY PLAN

YEAR 6	S 1	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>	Level III Science Elective <input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>	CHEM ENG 4046 Combustion Processes <input type="checkbox"/>	CHEM ENG 4053 Pinch Analysis & Process Synthesis <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering <input type="checkbox"/>
SEMESTER 2	CHEM ENG 4048 Bio-Fuels, Biomass & Wastes <input type="checkbox"/>	CHEM ENG 4058 Hydrometallurgy & Electrometallurgy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF SCIENCE (BIOTECHNOLOGY)					
YEAR 1	S1	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <input type="checkbox"/> or BIOLOGY 1401 Concepts in Biology ** <input type="checkbox"/>
	S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b>	BIOLOGY 1201 Biology I: Human Perspectives <input type="checkbox"/>
YEAR 2	S1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	BIOCHEM 2502 Biochemistry II (Biotech): Molecular and Cell Biology <input type="checkbox"/>
	S2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2015 Principles of Biotechnology II <input type="checkbox"/>
YEAR 3	S1	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	MICRO 2504 Microbiology II (Biotechnology) <input type="checkbox"/>
	S2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	BIOCHEM 2503 Biochemistry II (Biotechnology): Metabolism <input type="checkbox"/>
YEAR 4	S1	BIOCHEM 3000 Molecular & Structural Biology III (6 units) <input type="checkbox"/>		PHARM 3103 Drug Action and Therapeutics <input type="checkbox"/>	PHARM 3101 Biological and Psychosocial Factors in Addiction <input type="checkbox"/>
	S2	BIOCHEM 3001 Cancer, Stem Cells & Development (6 Units) <input type="checkbox"/> OR PHARM 3102 Preclinical Drug Discovery and Development <input type="checkbox"/> AND PHARM 3012 Assessment and Treatment of Addiction <input type="checkbox"/> OR HLTH SC 3101 Clinical Trials Management: Principles and Practice <input type="checkbox"/>		BIOTECH 3000 Biotechnology Practice III (6 units) <input type="checkbox"/>	

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## PRE-2019 COMMENCER STUDY PLAN

YEAR 5	S1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Due to pre-requisite requirements, students who have not completed Year 12 SACE Stage 2 Chemistry (or have achieved lower than a C+ grade) must enrol in BIOLOGY 1401 Concepts in Biology. Students who have completed Year 12 SACE Stage 2 Chemistry (with a grade of C+ or higher) can choose to take either BIOLOGY 1101 Biology I: Molecules, Genes and Cells or BIOLOGY 1401 Concepts in Biology. Students can do either BIOLOGY 1101 or BIOLOGY 1401 in semester 1 to move onto BIOLOGY 1201 Human Perspectives in semester 2.

PRE-2019 COMMENCER STUDY PLAN

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

**BACHELOR OF ENGINEERING (HONOURS) (CHEMICAL) WITH BACHELOR OF SCIENCE (BIOTECHNOLOGY) – Semester 2 Start**

YEAR 1	S 2	MATHS 1011 Mathematics IA # <input type="checkbox"/>	CHEM 1200 Chemistry IB <input type="checkbox"/> or CHEM 1201 Foundations of Chemistry IB * <input type="checkbox"/>	CHEM ENG 1011 Introduction to Process Modelling <input type="checkbox"/> <b>ENG 1003 Programming (Matlab and Excel)</b> <input type="checkbox"/>	BIOLOGY 1201 Biology I: Human Perspectives <input type="checkbox"/>
	S 1	MATHS 1012 Mathematics IB <input type="checkbox"/>	CHEM 1100 Chemistry IA <input type="checkbox"/> or CHEM 1101 Foundations of Chemistry IA * <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	BIOLOGY 1101 Biology I: Molecules, Genes & Cells <input type="checkbox"/> or BIOLOGY 1401 Concepts in Biology ** <input type="checkbox"/>
YEAR 2	S 2	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2016 Professional Practice II <input type="checkbox"/>	CHEM ENG 2014 Heat & Mass Transfer <input type="checkbox"/>	CHEM ENG 2015 Principles of Biotechnology II <input type="checkbox"/>
	S 1	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA <input type="checkbox"/>	BIOCHEM 2502 Biochemistry II (Biotech): Molecular and Cell Biology <input type="checkbox"/>
YEAR 3	S 2	CHEM ENG 3036 Unit Operations Laboratory <input type="checkbox"/>	CHEM ENG 3030 Simulation & Concept Design <input type="checkbox"/>	CHEM ENG 3031 Process Control & Instrumentation <input type="checkbox"/>	BIOCHEM 2503 Biochemistry II (Biotechnology): Metabolism <input type="checkbox"/>
	S 1	CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Kinetics & Reactor Design <input type="checkbox"/>	CHEM ENG 3024 Professional Practice III <input type="checkbox"/>	MICRO 2504 Microbiology II (Biotechnology) <input type="checkbox"/>
YEAR 4	S 2	BIOCHEM 3001 Cancer, Stem Cells & Development (6 Units) <input type="checkbox"/> <b>OR</b>		BIOTECH 3000 Biotechnology Practice III (6 units) <input type="checkbox"/>	
	S 1	PHARM 3102 Preclinical Drug Discovery and Development <input type="checkbox"/> <b>AND</b>	PHARM 3012 Assessment and Treatment of Addiction <input type="checkbox"/> <b>OR</b> HLTH SC 3101 Clinical Trials Management: Principles and Practice <input type="checkbox"/>		

PRE-2019 COMMENCER STUDY PLAN

YEAR 5	S 1	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4056 Research Practice <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 3029 Materials Science & Engineering <input type="checkbox"/>
	S 2	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 3033 Separation Processes <input type="checkbox"/>
YEAR 6	S 1	BIOCHEM 3000 Molecular & Structural Biology III (6 units) <input type="checkbox"/>		PHARM 3103 Drug Action and Therapeutics <input type="checkbox"/>	PHARM 3101 Biological and Psychosocial Factors in Addiction <input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths (or equivalent) are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester 1, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in summer school.

\*Students with a subject achievement grade of at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

\*\*Due to pre-requisite requirements, students who have not completed Year 12 SACE Stage 2 Chemistry (or have achieved lower than a C+ grade) must enrol in BIOLOGY 1401 Concepts in Biology. Students who have completed Year 12 SACE Stage 2 Chemistry (with a grade of C+ or higher) can choose to take either BIOLOGY 1101 Biology I: Molecules, Genes and Cells or BIOLOGY 1401 Concepts in Biology. Students can do either BIOLOGY 1101 or BIOLOGY 1401 in semester 1 to move onto BIOLOGY 1201 Human Perspectives in semester 2.