Bachelor of Engineering (Honours) (3707)

Contents

T3C Entry 2024

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Engineering

Bachelor of Engineering (Honours) (3707)

Aerospace Engineering (AEROAH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	PHYS1121 Physics 1A OR **PHYS1131** Higher Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**MATH1231** Mathematics 1B OR **MATH1241** Higher Mathematics 1B
	MMAN1130 Design and Manufacturing
Term 3	**ENGG1300** Engineering Mechanics
	***Free Elective Course**
	ENGG1811 Computing for Engineers OR **COMP1511** Programming Fundamentals OR **COMP1911** Computing 1A

Year 2	
Summer	
Term 1	**MATH2019** Engineering Mathematics 2E OR **MATH2018** Engineering Mathematics 2D
	ELEC1111 Electrical Circuit and Fundamentals
	MMAN2700 Thermodynamics
Term 2	**MMAN2300** Engineering Mechanics 2
	ENGG2400 Mechanics of Solids 1
Term 3	**DESN2000** Engineering Design & Professional Practice
	ENGG2500 Fluid Mechanics for Engineers
	MATH2089 Numerical Methods and Statistics

Year 3	
Summer	**General Education Course**
Term 1	**AERO3410** Aerospace Structures
	AERO3630 Aerodynamics
	AERO3660 Flight Performance and Propulsion
Term 2	**AERO3110** Aerospace Design 1
	DESN3000 Strategic Design Innovation
	MMAN3200 Linear Systems and Control
Term 3	**MMAN4951** (4 UoC) Research Thesis A
	AERO4110 Aerospace Design 2

Year 4	
Summer	**General Education Course**
Term 1	**MMAN4952** (4 UoC) Research Thesis B
	Discipline Elective Course
	AERO4620 Dynamics of Aerospace Vehicles, Systems & Avionics
Term 2	**Discipline Elective**
	MMAN4953 (4 UoC) Research Thesis C
	Discipline Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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*MATS1110 is recommended Free Elective Course to be taken during year 1. At least 6 UOC of discipline electives must be chosen from the "recommended elective list".

Engineering

Bachelor of Engineering (Honours) (3707)

Civil Engineering (CVENAH)

T3C Entry 2024 Sample Plan

UNSW SYDNEY

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	PHYS1121 Physics 1A OR **PHYS1131** Higher Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**MATH1231** Mathematics 1B OR **MATH1241** Higher Mathematics 1B
	CVEN2101 Engineering Construction
	ENGG1300 Engineering Mechanics
Term 3	**MATS1101** Engineering Materials and Chemistry
	ENGG1811 Computing for Engineers

Year 2	
Summer	**General Education Course**
Term 1	**ENGG2400** Mechanics of Solids
	ENGG2500 Fluid Mechanics for Engineers
	MATH2018 Engineering Mathematics 2D OR **MATH2019** Mathematics 2D (2E)
Term 2	**DESN2000** Engineering Design & Professional Practice
	CVEN2002 Engineering Computations
	CVEN2303 Structural Analysis and Modelling
Term 3	**General Education Course**
	CVEN3202 Soil Mechanics

Year 3	
Summer	
Term 1	**CVEN3203** Applied Geotechnics
	CVEN3303 Steel Structures
	CVEN3501 Water Resources Engineering
Term 2	**CVEN3304** Concrete Structures
	CVEN3401 Sustainable Transport & Highway Engineering
	CVEN3502 Water and Wastewater Engineering
Term 3	**CVEN3101** Engineering Operations and Control
	Free Elective Course

Year 4	
Summer	
Term 1	**CVEN4050** Thesis A
	Discipline Elective Course
	Discipline Elective Course
Term 2	**CVEN4051** Thesis B
	Discipline Elective Course
	Discipline Elective Course

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Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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Engineering

Bachelor of Engineering (Honours) (3707)

Environmental Engineering (CVENBH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	BIOS1301 Ecology, Sustainability & Environmental Science
Term 2	**MATH1131** Mathematics 1A OR **MATH1141** Higher Mathematics 1A
	CHEM1011 Chemistry 1A
	PHYS1121 Physics 1A OR **PHYS1131** Higher Physics 1A
Term 3	**CVEN1701** Environmental Principles and Systems
	ENGG1811 Computing for Engineers
	MATH1231 Mathematics 1B

Year 2	
Summer	
Term 1	**General Education Course**
	ENGG2500 Fluid Mechanics for Engineers
	MATH2018 Engineering Mathematics 2D OR **MATH2019** Mathematics 2D (2E)
Term 2	**DESN2000** Engineering Design & Professional Practice
	CVEN2002 Engineering Computations
	CVEN2701 Water and Atmospheric Chemistry
Term 3	**CEIC2009** Material and Energy Balances
	CVEN3202 Soil Mechanics

Year 3	
Summer	**Free Elective Course**
Term 1	**CVEN3203** Applied Geotechnics
	CVEN3701 Environmental Frameworks, Law & Economics
	CVEN3501 Water Resources Engineering
Term 2	**Discipline Elective Course**
	CVEN3402 Transport Engineering & Environmental Sustainability
	CVEN3502 Water and Wastewater Engineering
Term 3	**CVEN3702** Solid Wastes and Contaminant Transport
	CVEN3101 Engineering Operations and Control

Year 4	
Summer	**General Education Course**
Term 1	**CVEN4050** Thesis A
	Discipline Elective Course
	Discipline Elective Course
Term 2	**CVEN4051** Thesis B
	CVEN4701 Planning Sustainable Infrastructure
	Free Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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Engineering

Bachelor of Engineering (Honours) (3707)

Mechanical Engineering (MECHAH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	PHYS1121 Physics 1A OR **PHYS1131** (Higher) Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**MATH1231** Mathematics 1B OR **MATH1241** Higher Mathematics 1B
	MMAN1130 Design and Manufacturing
Term 3	**ENGG1300** Engineering Mechanics
	ELEC1111 Electrical Circuit Fundamentals
	ENGG1811 Computing for Engineers OR **COMP1511** Programming Fundamentals OR **COMP1911** Computing 1A

Year 2	
Summer	
Term 1	**MATH2019** Engineering Mathematics 2E OR **MATH2018** Engineering Mathematics 2D
	MATH2089 Numerical Methods and Statistics
	MMAN2700 Thermodynamics
Term 2	**MMAN2300** Engineering Mechanics 2
	ENGG2400 Mechanics of Solids 1
	***Free Elective Course**
Term 3	**DESN2000** Engineering Design & Professional Practice
	ENGG2500 Fluid Mechanics for Engineers

Year 3	
Summer	**General Education Course**
Term 1	**Discipline Elective Course**
	MECH3110 Mechanical Design 1
	MMAN3400 Mechanics of Solids 2
Term 2	**DESN3000** Strategic Design Innovation
	MECH3610 Advanced Thermofluids
	MMAN3200 Linear Systems and Control
Term 3	**MMAN4951** (4 UoC) Research Thesis A
	Recommended Discipline Elective Course

Year 4	
Summer	**General Education Course**
Term 1	**MMAN4952** (4 UoC) Research Thesis B
	Discipline Elective Course
	Recommended Discipline Elective Course
Term 2	**MMAN4953** (4 UoC) Research Thesis C
	MECH4100 Mechanical Design 2
	Recommended Discipline Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

*MATS1110 is recommended Free Elective Course to be attempted during year 1. At least 18 UOC of discipline electives must be chosen from the "recommended elective list“ in the handbook.

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Engineering

Bachelor of Engineering (Honours) (3707)

Mining Engineering (MINEAH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	PHYS1121 Physics 1A OR **PHYS1131** Higher Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**ENGG1811** Computing for Engineers
	MATH1231 Mathematics 1B OR **MATH1241** Higher Mathematics 1B
	ENGG1300 Engineering Mechanics
Term 3	**GEOS1111** Investigating Earth and Its Evolution
	Free Elective Course

Year 2	
Summer	
Term 1	**ENGG2400** Mechanics of Solids 1
	CEIC2001 Fluid and Particle Mechanics
	MATH2089 Numerical Methods and Statistics
Term 2	**MERE2810** Mineral Resource Geology & Geophysics
	Discipline Elective Course
	MATH2019 Engineering Mathematics 2E OR **MATH2018** Engineering Mathematics 2D
Term 3	**DESN2000** Engineering Design and Professional Practice
	MINE2820 Minerals Processing

Year 3	
Summer	**General Education Course**
Term 1	**MINE3220** Resource Estimation
	MINE3310 Mining Geomechanics
	MINE3430 Mining Systems
Term 2	**MINE3230** Mine Planning
	MINE3910 Socio-Environmental Aspects of Mining
Term 3	**MERE4951** (4 UoC) Research Thesis A
	MINE3630 Rock Breakage
	MINE3510 Mine Ventilation

Year 4	
Summer	**General Education Course**
Term 1	**MERE4952** (4 UoC) Research Thesis B
	MINE4250 Hardrock Mine Design and Feasibility Project
	MINE4310 Mine Geotechnical Engineering
Term 2	**MERE4953** (4 UoC) Research Thesis C
	MINE4710 Mine Management
	Discipline Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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Engineering

Bachelor of Engineering (Honours) (3707)

Robotics and Mechatronics Engineering (MTRNBH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	PHYS1121 Physics 1A OR **PHYS1131** Higher Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**MATH1231** Mathematics 1B OR **MATH1241** Higher Mathematics 1B
	MMAN1130 Design and Manufacturing
Term 3	**COMP1511** Programming Fundamentals
	ENGG1300 Engineering Mechanics
	ELEC1111 Electrical Circuit Fundamentals

Year 2	
Summer	
Term 1	**MATH2019** Engineering Mathematics 2E OR **MATH2018** Engineering Mathematics 2D
	MATH2089 Numerical Methods and Statistics
	ELEC2141 Digital Circuit Design
Term 2	**COMP1531** Software Engineering Fundamentals
	MMAN2300 Engineering Mechanics 2
	ENGG2400* Mechanics of Solids 1
Term 3	**DESN2000** Engineering Design and Professional Practice
	MTRN2500 Computing for Mechatronic Engineers

Year 3	
Summer	**General Education Course**
Term 1	**MMAN3200** Linear Systems and Control
	Discipline Elective Course
	Free Elective Course
Term 2	**MTRN3100** Robot Design
	DESN3000 Strategic Design Innovation
	Discipline Elective Course
Term 3	**MMAN4951** (4 UoC) Research Thesis A
	MTRN3500 Computing Applications in Mechatronics Systems

Year 4	
Summer	**General Education Course**
Term 1	**MMAN4952** (4 UoC) Research Thesis B
	MTRN3020 Modelling and Control of Mechatronic Systems
	MTRN4010 Advanced Autonomous Systems
Term 2	**MMAN4953** (4 UoC) Research Thesis C
	MTRN4230 Robotics
	Discipline Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

*Students can take ENGG2400, ENGG2500 or MMAN2700. At least 6 UOC of discipline electives must be chosen from the "recommended elective list" in the handbook.

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Engineering

Bachelor of Engineering (Honours) (3707)

Renewable Energy Engineering (SOLABH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Engineering Design and Innovation
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
	PHYS1121 Physics 1A OR **PHYS1131** (Higher) Physics 1A
Term 2	**SOLA1070** Sustainable Energy
	ENGG1811 Computing for Engineers OR **COMP1511** Programming Fundamentals OR **COMP1911** Computing 1A
Term 3	**ELEC1111** Electrical Circuit Fundamentals
	PHYS1221 Physics 1B OR **PHYS1231** Higher Physics 1B
	MATH1231 Mathematics 1A

Year 2	
Summer	
Term 1	**MMAN2700** Thermodynamics
	MATH2089 Numerical Methods and Statistics
	MATH2019 Engineering Mathematics 2E OR **MATH2018** Engineering Mathematics 2D
Term 2	**SOLA2051** Project in Photovoltaics and Renewable Energy
	Free Elective Course
	Strand Elective Course
Term 3	**DESN2000** Engineering Design & Professional Practice
	SOLA2540 Applied Photovoltaics

Year 3	
Summer	**General Education Course**
Term 1	**SOLA5053** Wind Energy Converters
	SOLA5050 Renewable Energy Policy
	Strand Elective Course
Term 2	**SOLA5057** Energy Efficiency
	Strand Elective Course
	Discipline Elective Course
Term 3	**SOLA4951** (4 UoC) Research Thesis A
	ELEC2911 Power Engineering for Renewable Energy

Year 4	
Summer	**General Education Course**
Term 1	**SOLA4952** (4 UoC) Research Thesis B
	ELEC4122 Strategic Leadership and Ethics
	Discipline Elective Course
Term 2	**SOLA4953** (4 UoC) Research Thesis C
	SOLA4012 Photovoltaic Systems Design
	Discipline Elective Course

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

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Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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Engineering

Bachelor of Engineering (Honours) (3707)

Telecommunications Engineering (TELEAH)

T3C Entry 2024 Sample Plan

Year 1	
T3C	**INFS2604** Artificial Intelligence Fluency OR **HUMS1005** Personalised English Language Enhancement
Term 1	**DESN1000** Intro. to Eng. Design and Innovation
	PHYS1121 Physics 1 A OR **PHYS1131** Higher Physics 1A
	MATH1131 Mathematics 1A OR **MATH1141** Higher Mathematics 1A
Term 2	**COMP1511** Programming Fundamentals OR **COMP1911** Computing 1A
	Discipline Elective
Term 3	**MATH1231** Mathematics 1B
	PHYS1231 Higher Physics 1B
	COMP1521 Computer Systems Fundamentals

Year 2	
Summer	
Term 1	**ELEC2141** Digital Circuit Design
	ELEC2134 Circuits and Signals
	ELEC1111 Electrical Circuit Fundamentals
Term 2	**DESN2000** Engineering Design & Professional Practice
	MATH2099 Mathematics 2B
	ELEC2133 Analogue Electronics
Term 3	**ELEC3104** Digital Signal Processing
	TELE3118 Network Technologies
	MATH2069 Mathematics 2A

Year 3	
Summer	**General Education Course**
Term 1	**ELEC3115** Electromagnetic Engineering
	ELEC3106 Electronics
	TELE3113 Analogue & Digital Communications
Term 2	**ELEC3117** Electrical Engineering Design
	ELEC3114 Control Systems
Term 3	**ELEC4951** Research Thesis A (4 UoC)
	TELE3119 Trusted Networks
	ELEC4123 Electrical Design Proficiency

Year 4	
Summer	**General Education Course**
Term 1	**ELEC4952** Research Thesis B (4 UoC)
	ELEC4122 Strategic Leadership & Ethics
	Discipline Elective
Term 2	**ELEC4953** Research Thesis C (4 UoC)
	Discipline Elective
	Free Elective OR **Discipline Elective**

Students commencing in T3C will need to take courses during the Summer term and/or during the year to ensure completion of the program within the standard duration.

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

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