

Varsity College Year 11 Engineering 2025

Term 1

Week	Date	Topics	Assessment
1	27-31 January O-Week Australia Day: Monday	Unit 1: Engineering fundamentals Topic 1: Engineering in society <ul style="list-style-type: none"> • 1.1 Problem Solving Process – Structural & Engineering Fundamentals • 1.2 Civil Mechanical and Electrical Engineering • 1.3 Engineering History 	
2	3-7 February	Topic 1: Engineering in society <ul style="list-style-type: none"> • 1.4 Indigenous Engineering • 1.5 Engineering in the community • 1.6 Ethics 	
3	10-14 February Swimming Carnival: Tuesday Y11,12 Parent Information Session: Monday	Topic 3: Introduction to engineering mechanics <ul style="list-style-type: none"> • 3.1 Statics and Dynamics • 3.2 Newtons Laws • 3.3 SI Units and Quantities • 3.4 Characteristics of a Force • 3.5 Force Diagrams 	
4	17-21 February	Topic 3: Introduction to engineering mechanics <ul style="list-style-type: none"> • 3.6 Components of a Force • 3.7 Scalar and Vector Quantities • 3.8 Moments 	
5	24-28 February	Topic 3: Introduction to engineering mechanics <ul style="list-style-type: none"> • 3.9 Non-Concurrent Forces • 3.10 Axial Forces in Beams • 3.11 Types of Trusses • 3.12 Axial Forces in Trusses - Truss Experiments • 3.14 Forces in Structures • 3.15 Types of Loading 	
6	3-7 March GCS25: Wednesday	Topic 4: Introduction to engineering materials <ul style="list-style-type: none"> • 4.1 Material Classification • 4.2 Structure of Solid State • 4.3 Density • 4.4 Primary Bonding • 4.5 Properties of Engineering Materials • 4.6 Types of Engineering Testing 	
7	9-14 10-14 March	Topic 4: Introduction to engineering materials <ul style="list-style-type: none"> • 4.7 Mechanical Testing and Inspection Experiments • 4.8 Introduction to Stress and Strain Topic 2: Engineering communication <ul style="list-style-type: none"> • 2.9 Data Analysis Communication • 2.10 Datasets • 2.11 Excel – Tables • 2.12 Excel – Graphs • 2.13 Communicating using Schemas 	
8	17-21 March	<ul style="list-style-type: none"> • Exam Revision 	
9	24-28 March	EXAM BLOCK	Exam
10	31 March - 4 April Cross Country Carnival: Thursday	Topic 2: Engineering communication <ul style="list-style-type: none"> • 2.1 Types of Communication • 2.2 Engineering Communication concepts • 2.3 Australian Standards (AS1100) • 2.4 Drawing and Sketching Standards • 2.5 Interpreting Drawings • 2.6 Computer Aided Drawing • 2.7 Comparing Drawing Methods • 2.8 Generating Engineering Drawings 	
School holidays: Friday April 4 - Sunday April 19			

Term 2

Week	Date	Topics	Assessment
1	21-25 April Easter Monday ANZAC Day: Friday	<ul style="list-style-type: none"> FIA2 Handed out Engineered Solution – Success Criteria and Clarifying Unknowns 	
2	28 April-2 May GCS25: Tuesday	<ul style="list-style-type: none"> Engineered Solution – Material Investigation and Ideation 	
3	5-9 May Labour Day: Monday	<ul style="list-style-type: none"> Engineered Solution – Generate Working Drawings and Prototypes 	Draft due lesson 1
4	12-16 May Parent Teacher Interviews: Monday	<ul style="list-style-type: none"> Engineered Solution – Generate Prototypes 	
5	19-23 May	<ul style="list-style-type: none"> Engineered Solution – Generate Prototypes 	
6	26-30 May	<ul style="list-style-type: none"> Engineered Solution – Evaluation and Recommendations 	Project Final due lesson 3
7	2-6 June GCS25: Wednesday	EXAM BLOCK	
8	9-13 June GCS25: Wednesday	Unit 2: Emerging technologies <ul style="list-style-type: none"> Topic 1: Emerging needs in society 1.1 Problem Solving Process – Society & Emerging Technologies 1.2 Engineering Professions – Current & Emerging 1.3 Exploring Emerging Problems 1.4 Emerging Engineering Ethical, Legal, Social and Economic Impacts 1.5 Autonomous Vehicles, Drones and Flight 1.6 Ethical, Legal, Social and Economic Benefits of Technologies 1.7 Ethical and Social Implications of Emerging Technologies 1.8 Built-in & Planned Obsolescence 1.9 Alternative Energy Sources 	
9	16-20 June	Topic 2: Emerging processes, machinery and automation <ul style="list-style-type: none"> 2.1 Additive and Subtractive Manufacturing Processes 2.2 Medical and Industrial Applications of Additive and Subtractive Manufacturing 2.3 Rapid Prototyping Techniques 2.4 Introduction to Linear Motion 	
10	23-27 June Athletics Carnival: Thursday	Topic 2: Emerging processes, machinery and automation <ul style="list-style-type: none"> 2.5 Introduction to Mechanical Advantage and Velocity Ratio 2.6 Emerging Automation 2.7 Thermal and Electrical Conductors and Insulators 2.8 ACDC 2.9 Voltage, Current and Resistance 	
School holidays: Saturday June 28 - Sunday July 13			

Term 3

Week	Date	Topics	Assessment
1	14-18 July	FIA3 Handed out <ul style="list-style-type: none"> Engineered Solution – Success Criteria and Clarifying Unknowns 	
2	21-25 July Future Pathways Expo Y11, 12 Parent Information Session: Wednesday	<ul style="list-style-type: none"> Engineered Solution – Material Investigation and Ideation 	
3	28 July-1 August Parent Teacher Interviews: Monday	<ul style="list-style-type: none"> Engineered Solution – Material Investigation and Ideation 	
4	4-8 August	<ul style="list-style-type: none"> Engineered Solution – Generate Working Drawings and Prototypes 	Draft due lesson 1
5	11-15 August GCS25: Tuesday	<ul style="list-style-type: none"> Engineered Solution – Generate Prototypes 	
6	18-22 August GC25 (Finals): Tuesday	<ul style="list-style-type: none"> Engineered Solution – Generate Prototypes 	
7	25-29 August GC Show Day: Friday	<ul style="list-style-type: none"> Engineered Solution – Evaluation and Recommendations 	Project Final due lesson 3
8	1-5 September	<ul style="list-style-type: none"> Intro to Structures 	
9	8-12 September	EXAM BLOCK	
10	15-19 September	EXAM BLOCK	
School holidays: Saturday September 20 – Sunday October 4			

Term 4

Week	Date	Topics	Assessment
1	6-10 October King's Birthday: Monday	Unit 3: Civil structures Topic 1: Engineering in society <ul style="list-style-type: none"> 1.1 Problem Solving Process – Complex Structures 1.2 Civil Engineering Sub-disciplines 1.3 Engineering Innovation in Civil Structures 1.4 Technological Sustainability 	
2	13-17 October	Topic 1: Engineering in society <ul style="list-style-type: none"> 1.5 Common Materials used in Civil Structures 1.6 Environmental Implications 1.7 Ethics – Structures 	
3	20-24 October	Topic 1: Engineering in society <ul style="list-style-type: none"> 1.8 Corrosion 1.9 Life Cycle Topic 2: Civil structures and forces <ul style="list-style-type: none"> 2.1 Beam Reactions at Support 	
4	27-31 October	Topic 2: Civil structures and forces <ul style="list-style-type: none"> 2.2 Truss Analysis 	
5	3-7 November	Topic 2: Civil structures and forces <ul style="list-style-type: none"> 2.3 Bending Stress 2.4 Factor of Safety 	
6	10-14 November	Topic 3: Civil engineering materials <ul style="list-style-type: none"> 3.1 Comparing Material Properties 3.2 Calculations for Civil Structures 3.3 Stress and Strain – Timber and Steel 3.4 Tension, Compression, Transverse and Shear Testing 	
7	17-21 November	Topic 3: Civil engineering materials <ul style="list-style-type: none"> 3.5 Material Testing Experiment 3.6 Engineering Materials - Concrete Exam revision 	
8	24-28 November	EXAM BLOCK	Exam
School holidays: Saturday November 29 – Monday January 26			