### Course Components 2020

#### Term 1, 2020

<table>
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<tr>
<th><strong>University Orientation and Study Skills 1 (UNSW course code - REGZ9000)</strong></th>
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<td><strong>For:</strong></td>
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<tr>
<td><strong>Units of credit:</strong></td>
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<tr>
<td><strong>Hours per week:</strong></td>
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<tr>
<td><strong>Available:</strong></td>
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<td><strong>Prior Knowledge:</strong></td>
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The University Orientation & Study Skills course provides a practical engagement with the academic skills needed for success at university: for example, time management, critical thinking and academic writing. UOSS 1 has a particular focus on the understanding of, and the preparation required, to produce an academic essay. Topics covered include:

- orientation to the academic system
- critical/ analytical thinking
- note making
- tutorial presentations
- essay writing
- referencing and citation skills
- assignment planning
- research and critical reading
- examination techniques

<table>
<thead>
<tr>
<th><strong>UPP Mathematics Skills 1 (UNSW course code - REGZ9070)</strong></th>
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UPP Mathematics Skills 1 is for students who have not achieved an appropriate level of mathematics at high school or equivalent and wish to apply to UNSW degree programs with assumed knowledge in mathematics. Topics covered include:

- basic arithmetic and algebra (2.5 weeks);
- further arithmetic and algebra (2.5 weeks);
- coordinate geometry (2 weeks);
- functions and graphs (2 weeks).
Term 2, 2020

University Orientation and Study Skills 1 Contd. (UNSW course code - REGZ9000)

For: Students in all UPP streams (Humanities, Science, Business and Engineering)

Units of credit: 6 (3 UoC per term) Hours per week: 3 Available: Terms 1 and 2 (exclusively to UPP students)

Timetable: The UOSS 1 course continues over two consecutive terms. Classes are offered as follows: Each week students attend one of the following 2 hr class sessions, plus an hour online: Monday 6pm - 8pm OR Tuesday 6pm - 8pm OR Friday 12pm - 2pm

Prior Knowledge: Must be proficient in written and spoken English

The University Orientation & Study Skills course provides a practical engagement with the academic skills needed for success at university: for example, time management, critical thinking and academic writing. UOSS 1 has a particular focus on the understanding of, and the preparation required, to produce an academic essay. Topics covered include:

- orientation to the academic system
- critical/analytical thinking
- note making
- tutorial presentations
- essay writing
- referencing and citation skills
- assignment planning
- research and critical reading
- examination techniques

UPP Mathematics Skills 2 (UNSW course code - REGZ9072)

For: Science and Business stream students (in addition to UOSS 2) and Engineering stream students (in addition to ENG0360)

Units of credit: 6 Hours per week: 6 Available: Term 2 (exclusively to UPP students)

Timetable: Students attend BOTH sessions:
- Monday 6pm - 9pm AND Wednesday 6pm - 9pm

Prerequisites: Successful completion of REGZ9070.

UPP Mathematics Skills 2 It is designed to provide a level of competency in mathematics for students who have not studied HSC Mathematics (or equivalent) at high school and who wish to apply to UNSW programs with assumed knowledge in Mathematics, and follows on from REGZ9070. It takes students to the equivalent of 2 Unit Yr 12 Mathematics. Topics include:

- differential calculus (3 weeks);
- integral calculus (1.5 weeks);
- trigonometry and trigonometric functions (2.5 weeks);
- exponential and logarithmic functions (2 weeks)

NOTE: Engineering stream students who attain a Distinction result or higher in REGZ9070 in Term 1 MAY, after consultation with the UPP Mathematics Coordinator, be permitted to take MATH1100 Fundamentals of Mathematics B in place of REGZ9072.
Science stream students who attain a Distinction result or higher in REGZ9070 in Term 1 MAY, after consultation with the UPP Mathematics Coordinator, be permitted to take a Science Gateway course in place of REGZ9072.
Business Students who attain a Distinction result or higher in REGZ9070 in Term 1 MAY, after consultation with the UPP Mathematics Coordinator, be permitted to take a Business Gateway course in place of REGZ9072.

Term 3, 2020*

University Orientation and Study Skills 2 (UNSW course code - REGZ9255)

For: Humanities, Science and Business stream students

Units of credit: 6 Hours per week: 3 Available: Term 3 (exclusively to UPP students)

Timetable: Classes are offered as follows:
Each week students attend one of the following 2 hr class sessions, plus an hour online:
Monday 6pm - 8pm OR Tuesday 6pm - 8pm OR Friday 12pm - 2pm
Prerequisites: Successful completion of UOSS 1 (REGZ9000)

University Orientation & Study Skills 2 (UOSS 2) builds on the fundamental academic skills studied in UOSS 1 and introduces students to the foundations of conducting research in the social sciences. UOSS 2 focuses on developing skills in research, writing and presenting critical reviews and reports. The assignments enable students to complete a small research project. Topics covered include:

- developing research questions
- managing a research project
- locating, evaluating and critically reviewing literature
- reading, citing and managing information
- fundamentals of qualitative and quantitative research methods
- writing annotated bibliographies
- recognising the importance of ethics and integrity in research
- analysing research findings
- writing research reports

UPP Mathematics Skills 3 (UNSW course code - REGZ9073)

For: Science and Business stream students (in addition to UOSS 2) and Engineering stream students (in addition to ENG0360)

Units of credit: 6  
Hours per week: 6  
Available: Term 3 (exclusively to UPP students)

Timetable: Students need to attend BOTH sessions:  
- Monday 6pm - 9pm AND Wednesday 6pm - 9pm

Prerequisites: Successful completion of REGZ9070.

UPP Mathematics Skills 3 is for students who have not achieved an appropriate level of mathematics at high school or equivalent and wish to apply to UNSW degree programs with assumed knowledge in mathematics. Topics include:

- applications of calculus (2 weeks);
- sequences and series (2 weeks);
- introductory probability (2 weeks);
- introductory statistics (3 weeks).

Communicating in Engineering (UNSW course code - ENG0360)

For: Engineering stream students (in addition to REGZ9072)

Units of credit: 6  
Hours per week: 6  
Available: Term 3

Prerequisites: Successful completion of UOSS 1 (REGZ9000) and REGZ9070 (UPP Mathematics Skills 1)

Communicating in Engineering explores the expectations and conventions applying to spoken and written communications within engineering and science; different textual genres; aspects of rhetoric; ethical use of material; formal language structure; grammar and syntax. Students will improve their ability to collect and build ideas into coherent arguments, learn how to construct texts that demonstrate critical thinking, and develop their communication skills (speaking, listening, writing, & reading), in preparation for subsequent study in a professional context.

Gateway Elective

For: Humanities stream students (in addition to UOSS 2)

Units of credit: 6  
Hours per week: 3  
Available: Term 3

Prerequisites: Successful completion of REGZ9000

The Gateway elective courses are selected from parts of the first year undergraduate BA degree program at UNSW. The purpose of undertaking Gateway electives is to allow UPP students to experience studying a first year course with current undergraduate students. Each course includes a lecture and tutorial format, as well as a variety of written and oral assignments. UPP students enrolled in the Humanities stream are required to pass the Gateway elective in order to successfully complete the program. There are a number of courses which UPP students can select from and information about each course and enrolment will be made available late in Term 1.

Please note: The information in this brochure is correct at the time of publication, but may be subject to change with notice.
Term 1, 2021

**Fundamentals of Mathematics B (UNSW course code - MATH1011)**

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Functions (and their inverses), limits, asymptotes, continuity; differentiation and applications; integration, the definite integral and applications; inverse trigonometric functions; the logarithmic and exponential functions and applications; sequences and series; mathematical induction; the binomial theorem and applications; introduction to probability theory; introduction to 3-dimensional geometry; introduction to linear algebra.

*or Term 2, 2020 for students who attained a Distinction level or higher in REGZ9070*

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**Fundamentals of Physics (UNSW course code - PHYS1111)**

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This is an introductory level course in physics for students from all disciplines. The course will cover the methods of Physics, including: the description of motion; forces and momentum; the dynamics of particles; kinetic and potential energy; the conservation of energy; temperature and thermal equilibrium; specific and latent heat; thermal energy; fluids and fluid flow; oscillations and simple harmonic motion; waves, wave reflection, refraction and interference; the wave nature of light; electric fields and charge; electric potential and energy; electric currents; magnetism; electromagnetic induction and Faraday's law; early quantum theory and models of the atom; nuclear physics and radioactivity; nuclear energy.