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If your course rules allow, you may be able to choose to study a minor from another area of the University. Minors are sets of related units in a particular study area.

The introductory units in each minor have no prerequisites. Later units may have earlier units as prerequisites. Depending on class timetabling it may not be possible to complete all units in a University Wide Minor. Consult with your course coordinator and relevant discipline coordinators prior to undertaking interfaculty studies.

The units you complete in a University Wide Minor will appear on your academic transcript but the successful completion of a minor will only be shown if it exists as an option in your course.

Science for the Games IT Industry unit set

PCB150 Physics 1H
PQB460 Astrophysics 1
PLUS EITHER
MAB100 Mathematical Sciences 1A
MAB105 Preparatory Mathematics
MAB111 Mathematical Sciences 1B
PLUS EITHER
NQB201 Planet Earth
NQB202 History of Life on Earth
SCB222 Exploration of the Universe

UNIT SYNOPSISES

MAB100 MATHEMATICAL SCIENCES 1A
To enrol you should have (1) at least Sound Achievement in 4 semesters of Mathematics B, or (2) a grade of least 4 in MAB105, or (3) the equivalent. This unit will reinforce the notion of a function with particular emphasis on polynomial, trigonometric, exponential and logarithmic functions including arithmetic and geometric progressions and the binomial theorem. Calculus will be reviewed and expanded with an emphasis on integration and on integration techniques and applications. Vectors and matrices will be introduced with vectors interpreted geometrically and algebraically and matrices as representations of linear systems, with applications. If time permits, complex numbers will be introduced. This unit is incompatible with HA in Senior Mathematics C.

Prerequisite(s): MAB105 or SA in Senior Maths B (or equivalent) Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2009 SEM-1, 2009 SEM-2 and 2009 SUM Incompatible with: Prior pass in MAB180, MAB131, HA in Senior Maths C

MAB105 PREPARATORY MATHEMATICS
This unit is intended to cater for the needs of students whose background in mathematics is either weak or does not reach the equivalent of Senior Mathematics B. It is intended to provide the concepts and skills needed for successful study of those units within the university which assume a background equivalent to Senior Mathematics B. This unit is incompatible with a grade of High Achievement in Senior Mathematics B. The aim of this unit is to develop your mathematical skills in and understanding of algebra, functions and graphing, differential and integral calculus of one variable and to interpret and solve simple, real world problems using these skills.

Assumed knowledge: Year 10 Level 6 Mathematics is assumed knowledge Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2011 SEM-1 and 2011 SEM-2

MAB111 MATHEMATICAL SCIENCES 1B
Limits and continuity, including limits of rational functions, functions involving radicals, trigonometric functions; L'Hopital's Rule; differentiation techniques - parametric, logarithmic; inverse functions and their derivatives; partial derivatives. Introduction to differential equations and mathematical modelling. Riemann sums, fundamental theorems of integral calculus; applications including solids of revolution and first-order-separable differential equations. Taylor series, Fourier series and applications. Students must have completed four semesters of Senior Mathematics C with an exit achievement of Sound Achievement, or have passed MAB100 (or equivalent).

Assumed knowledge: Grade of at least Sound Achievement in Senior Mathematics C (or equivalent) or MAB100 is assumed knowledge Credit points: 12 Contact hours: 4 per week Campus: Gardens Point
NQB201 PLANET EARTH
Earth Science impacts every aspect of modern life. Hence, the concepts of Earth Science are fundamental not only to the field of Geology, but also to Environmental Science, natural resource management, civil engineering and society at large. Planet Earth provides an introduction to Earth Science, including earth materials, geologic history, geological process at the Earth's surface, and the complex interplay between the lithosphere, atmosphere, hydrosphere and biosphere through geologic time. Thus, Planet Earth is a foundation unit for further studies in Geology and Environmental Science and also serves as a broad introduction to the world we live on.

Equivalents: NRB230  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

NQB202 HISTORY OF LIFE ON EARTH
This unit aims to provide you with an understanding of the processes of evolution and the changing environmental conditions through time that influenced the patterns of the evolution of life on this planet. The unit will provide you with practical experience in fossil plant and animal identification, classification and morphological interpretation. It will also enable you to apply palaeontological information to interpret the evolutionary history of higher taxa and the changing ancient depositional environments through time.

Equivalents: NRB240  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

PCB150 PHYSICS 1H
Professionals in the applied sciences require an understanding of the processes of making and recording measurements and an understanding of the physical principles that govern the behaviour of both the physical parameters being measured and the instrument being used to make the measurement. The aim of this unit is to introduce you to the processes of making measurements and estimating, processing and interpreting the uncertainties involved with these measurements. To enable you to understand the physical parameters being measured and also the limits of the measuring instrument; the physics of mechanics, heat, sound and light will be introduced and explained.

Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1 and 2011 SEM-2

PQB460 ASTROPHYSICS 1
This second level unit is one of the key units in the astrophysics co-major and introduces students to most of the main aspects of astrophysics. This unit is essential as it defines the connections between the supporting units of the co-major. Students are required to use the knowledge and skills developed in first level physics, maths and natural resource units.

Prerequisites: PQB250 or PCB250 or PCB150

Equivalents: PCB469  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

SCB222 EXPLORATION OF THE UNIVERSE
This unit provides an introduction to optical observational astronomy; instrumentation; celestial sphere and astronomical coordinates; observations of constellations, stars, planets, clusters and other interesting celestial objects. The theory includes: optics of telescopes; properties of light; determination of physical properties of stars; nebulae; stellar spectra and classification; historical models of the solar system; Kepler's law, gravitation; physical geology of the planets and formation of the solar system; phenomena of astronomical origin; brief introduction to stars and galaxies. This course includes practical exercises and field trips.

Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2