

You can find course prerequisite information on Massey's **Programmes and Courses** website. The course codes below are clickable.

ENDORSEMENT

Lighting

Admission

A bachelor's degree (or equivalent) with good grades in electrical engineering, electronics, physics, or design, or architecture or a related area. Prerequisites are important but can be waived if the student has appropriate industry or professional experience. Prerequisite courses are available in the Certificate in Science and Technology.

SUBJECT PATHWAYS

Animal Science

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biochemistry, biology (animal biology, mammalian biology, zoology), chemistry and statistics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
117.254	Principles of Animal Science and Production	15
122.233	Metabolic Biochemistry	15
194.241	Physiological Control Systems	15
117.342	Animal Nutrition	15
117.344	Animal Growth and Meat Production	15
117.345	Genetics for Livestock Improvement	15
117.347	Reproductive and Lactational Physiology	15
117.348	Animal Metabolism	15
117.361	Companion Animal Science	15
117.371	Animal Production	15
117.381	Solving Problems in Animal Production	15

Biochemistry

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biochemistry, biology (animal biology, cell biology, plant biology, zoology), and chemistry. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
122.231	Genes and Gene Expression	15
122.232	Protein Biochemistry	15
122.303	Gene Regulation	15
122.322	Protein Structure and Function	15
203.300	DNA Technology	15

Chemistry

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in chemistry. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
123.201	Chemical Energetics	15
123.202	Organic and Biological Chemistry	15

123.203	Inorganic Chemistry and Modelling	15
123.204	Chemical and Biochemical Analysis	15
123.206	Environmental and Analytical Chemistry	15
123.210	Organic Chemistry Perspectives	15
123.271	Molecules to Materials	15
123.310	Advanced Concepts in Organic Chemistry	15
123.311	Advanced Physical and Analytical Chemistry	15
123.312	Advanced Organic Chemistry	15
123.313	Advanced Inorganic Chemistry	15
123.326	Advanced Chemical Biology	15
123.331	Advanced Physical and Computational Chemistry	15
123.332	Advanced Topics in Chemistry	30
236.301	Advanced Nanoscience	15

Earth Science

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in chemistry, earth science and physical geography. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
233.202	Earth Science Field Work I	15
233.250	Understanding New Zealand Geology	15
233.251	GIS and Remote Sensing	15
233.301	Advanced Remote Sensing	15
233.302	Earth Science Field Work III	15
233.310	Pedology and Quaternary Geology	15
233.350	How the Earth Works	15

Ecology

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (animal biology, cell biology, plant biology, zoology), chemistry and statistics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
120.218	The Flora of New Zealand	15
161.250	Data Analysis for Biologists	15
194.245	Animal Form and Function	15
196.205	Ecology and Conservation	15
196.207	Biological Evolution	15
196.213	Microbial Ecology	15
196.217	Evolutionary Biology	15
196.225	Introductory Marine Biology	15
199.206	The Fauna of New Zealand	15
196.313	Limnology	15
196.315	Applied Ecology and Resource Management	15
196.316	New Zealand Plant Ecology	15
196.317	Community and Ecosystem Ecology	15
196.318	Molecular Ecology	15
196.321	Vegetation Studies in New Zealand	15
196.326	Topics in Marine Ecology	15
196.327	Marine Mammalogy	15
196.350	Quantitative Marine Ecology	15

Engineering

Admission

A Bachelor's degree (or equivalent) in Science, Technology, Engineering including electronics with good grades in 30 credits each of 100+ level Maths, Physics and Computing, or equivalents. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
228.211	Engineering Practice 3: Product Development	15
228.212	Engineering Practice 4: Materials and Manufacturing	15
228.271	Engineering Mathematics 2	15
280.272	Fluid Flow and Particle Technology	15
281.272	Signals and Systems	15
281.273	Communication Network Architectures	15
281.281	Analogue Electronic Systems	15
281.282	Digital Electronic Systems	15
282.260	Manufacturing Engineering and Computer-Aided Design	15
281.353	Control Engineering	15
281.374	Communication Systems	15
281.375	Data Communication Networks	15
281.384	Embedded Systems Design	15
281.385	Advanced Electronic Circuits	15
282.371	Mechanical Engineering – Solid Dynamics	15
282.372	Mechanical Engineering – Mechanism and Component Design	15
282.373	Mechanical Engineering – Fluid Mechanics and Thermodynamics	15
287.320	Product Design	15
287.342	Agile Manufacturing	15

Environmental Science

Admission

A bachelor's degree (or equivalent) with good grades for credits in biology (animal biology, cell biology, plant biology, zoology), chemistry, environmental science, geography and statistics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
121.210	Environmental Issues	15
188.263	Introduction to Environmental Management	15
196.205	Ecology and Conservation	15
121.310	Environmental Solutions	15
121.311	Global Environmental Issues	15
121.312	Environmental Science Field Work II	15
188.363	Applied Environmental Management	15

Exercise and Sport Science

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biochemistry, biology (animal biology, mammalian biology, zoology), chemistry and health science. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
151.232	Nutrition and Metabolism	15
194.241	Physiological Control Systems	15
194.242	Physiology of Mammalian Organ Systems	15
234.222	Sport Biomechanics I	15
234.223	Exercise Physiology	15
234.224	Motor Behaviour	15
128.300	Ergonomics/Human Factors: Work, Performance, Health and Design	15
151.332	Nutrition for Sport and Performance	15
194.350	Human Lifecycle Physiology	15
234.322	Sport Biomechanics II	15
234.323	Exercise Physiology II	15
234.327	Investigating Sports Performance	15
234.361	Exercise Psychology	15

Food Safety

Admission

Open to approved Chinese food safety officials holding an appropriate Scholarship.

A bachelor's degree (or equivalent) or have been admitted on the basis of relevant professional experience.

Code	Title	Credits
141.716	Research Report; Food	30
141.724	Food Quality Safety and Innovation	15
141.794	Special Topic	15

Genetics

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (cell biology) and chemistry. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
122.231	Genes and Gene Expression	15
162.211	Biology and Genetics of Microorganisms	15
162.214	Biology of Microorganisms	15
196.207	Biological Evolution	15
196.217	Evolutionary Biology	15
203.202	Genetic Analysis	15
203.203	Human Genetics	15
203.212	Principles of Genetics	15
122.303	Gene Regulation	15
203.300	DNA Technology	15
203.305	Advanced Practical Genetics	15
203.307	Mammalian Cell Biology	15
203.328	Genome Analysis	15
203.340	Applied Molecular Biology	15
203.341	Genetics and Evolution	15
203.342	Molecular and Cellular Biology	15
203.343	Advanced Genetics and Genomics	15

Geography

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in earth science or geography (human or physical).

Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
145.222	Rivers and Slopes	15
145.223	Climate Change and Natural Hazards	15
145.224	Biogeography	15
145.230	Coastal Environments	15
145.303	Field work: Alpine Physical Geography	15
145.304	Applied Field Geomorphology	15
145.320	Quaternary Biogeography and Environmental Change	15
145.327	River Dynamics	15

Horticulture

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (cell biology, plant biology) or horticulture.

Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
120.217	Plant, Cell and Environment	15
120.218	The Flora of New Zealand	15
120.302	Plant Development	15
120.303	Plant Biodiversity	15
283.305	Arable Production and Technology	15
284.201	Horticultural Production Systems	15
284.301	Horticultural Crop Development and Yield	15
284.342	Hort Productivity and Quality	15

285.201	Understanding Plant protection	15
285.301	Controlling Plant Pests and Diseases	15

Human Nutrition

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biochemistry and chemistry. Prerequisite are important but can be waived if the student has appropriate industry or professional experience. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
151.243	Nutritional Biochemistry	15
151.344	Principles of Nutrition	15
151.345	Nutrition Throughout the Life Cycle	15
151.346	Topics in Nutrition	15

Information Sciences

Admission

A bachelor's degree (or equivalent) with good grades in Computer Science or Information Systems or a related area. Prerequisites are important but can be waived if the student has appropriate industry experience. Programming experience is very important if any Computer Science courses are selected. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
157.240	Social Media Networks for Business	15
157.241	Information Systems, Organisations and e-Commerce	15
158.212	Application Software Development	15
158.222	Data Wrangling and Machine Learning	15
158.225	Systems Analysis and Modelling	15
158.235	Networks, Security and Privacy	15
158.244	System Management and Testing	15
158.247	Database Design	15
158.258	Web Development	15
159.201	Algorithms and Data Structures	15
159.202	Declarative Programming	15
159.233	Computer Architecture	15
159.234	Object-Oriented Programming	15
159.235	Graphical Programming	15
159.251	Software Engineering Design and Construction	15
159.253	Computer Systems	15
159.270	Hardware-Oriented Computing	15
159.271	Computational Thinking for Problem Solving	15
159.272	Programming Paradigms	15
160.211	Linear Algebra	15
161.220	Data Analysis	15
157.340	Organisational Knowledge Management	15
157.350	Technology Governance and Risk Management	15
158.326	Software Architecture	15
158.333	Applied Machine Learning and Data Visualisation	15
158.335	The Internet of Things and Cloud Computing	15
158.337	Database Development	15
158.345	Social and Professional Issues in Information Technology	15
158.359	User Experience Design	15
159.302	Artificial Intelligence	15
159.331	Algorithms and Languages	15
159.334	Computer Networks	15
159.335	Concurrent Programming and Operating Systems	15
159.339	Internet Programming	15
159.352	Advanced Web Development	15
159.354	Data Communication Networks	15
159.355	Concurrent Systems	15
159.360	Programming for Computer Graphics	15
159.372	Intelligent Machines	15
161.323	Multivariate Analysis	15
161.324	Data Mining	15

Mathematics

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in mathematics (algebra and calculus). Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
160.203	Calculus	15
160.204	Differential Equations I	15
160.211	Linear Algebra	15
160.212	Discrete Mathematics	15
161.200	Statistical Models	15
124.332	Classical Fields	15
160.301	Analysis	15
160.302	Algebra	15
160.314	Combinatorics	15
160.318	Differential Equations II	15
160.319	Mathematical Modelling	15

Microbiology

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (cell biology) and chemistry. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
122.231	Genes and Gene Expression	15
162.211	Biology and Genetics of Microorganisms	15
162.212	The Microbial World	15
162.283	Medical Microbiology	15
162.301	Advanced Medical Microbiology	15
162.303	Immunology	15
162.304	Applied and Environmental Microbiology	15
203.300	DNA Technology	15

Nanoscience

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in chemistry and physics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
123.201	Chemical Energetics	15
236.301	Advanced Nanoscience	15
123.311	Advanced Physical and Analytical Chemistry	15
203.300	DNA Technology	15

Physics

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in mathematics (algebra and calculus) and physics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
124.226	Quantum and Statistical Physics	15
124.229	Special Relativity and Cosmology	15
124.230	Biophysics	15
124.233	Classical Mechanics and Waves	15
160.203	Calculus	15
124.316	Advanced Experimental Physics	15
124.325	Advanced Quantum Physics	15
124.327	Modern Statistical Physics and Thermodynamics	15
124.332	Classical Fields	15

Physiology

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biochemistry and biology (animal biology, mammalian biology, zoology). Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
122.233	Metabolic Biochemistry	15
194.241	Physiological Control Systems	15
194.242	Physiology of Mammalian Organ Systems	15
194.243	Physiological Strategies for Survival	15
194.245	Animal Form and Function	15
194.342	Cell Physiology	15
194.343	Applied Physiology and Animal Welfare	15
194.344	Nerves and the Nervous System	15
194.345	Comparative Physiology	15
194.346	Control of Metabolism	15
194.350	Human Lifecycle Physiology	15

Plant Biology

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (cell biology and plant biology), and chemistry. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
120.217	Plant, Cell and Environment	15
120.218	The Flora of New Zealand	15
120.219	Plants and People	15
122.231	Genes and Gene Expression	15
120.302	Plant Development	15
120.303	Plant Biodiversity	15
120.304	Plant Biotechnology	15

Psychology

Admission

A bachelor's degree which includes good grades for credits in psychology. A Prerequisite course is available as a CoP.

Code	Title	Credits
175.201	Social Psychology	15
175.203	Introduction to Psychological Research	15
175.205	Brain and Behaviour	15
175.206	Memory and Cognition	15
175.210	Ngā Tirohanga Rua o te Taha Hinengaro: Bicultural Perspectives in Psychology	15
175.301	Community Psychology	15
175.302	Abnormal and Therapeutic Psychology	15
175.303	The Practice of Psychological Research	15
175.306	Assessment of Individual Differences	15
175.309	Forensic Psychology	15
175.311	Psychology of Women	15
175.316	Evolution, Culture and Mind	15
175.317	Health Psychology	15
175.318	Experimental Psychology	15
175.343	Personnel Psychology and Career Development	15
175.345	Organisational Psychology	15

Statistics

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in mathematics and statistics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
160.203	Calculus	15
160.211	Linear Algebra	15
161.200	Statistical Models	15

Code	Title	Credits
161.220	Data Analysis	15
161.221	Applied Linear Models	15
161.223	Introduction to Data Mining	15
161.250	Data Analysis for Biologists	15
161.304	Advanced Statistical Modelling	15
161.321	Sampling and Experimental Design	15
161.322	Design and Analysis of Surveys and Experiments	15
161.323	Multivariate Analysis	15
161.324	Data Mining	15
161.325	Statistical Methods for Quality Improvement	15
161.327	Generalised Linear Models	15
161.331	Biostatistics	15
161.342	Forecasting and Time Series	15

Zoology

Admission

A bachelor's degree (or equivalent) which includes good grades for credits in biology (animal biology, cell biology, mammalian biology, zoology) and statistics. Prerequisite courses are available in the Certificate in Science and Technology.

Code	Title	Credits
161.250	Data Analysis for Biologists	15
196.207	Biological Evolution	15
196.217	Evolutionary Biology	15
199.204	Animal Behaviour	15
199.211	Invertebrate Zoology	15
199.212	Vertebrate Zoology	15
194.345	Comparative Physiology	15
196.327	Marine Mammalogy	15
199.310	Entomology	15
199.312	Behavioural Ecology	15
199.317	Animal Biodiversity	15
199.320	Selected Topics in Zoology	15
199.330	Ornithology	15