

Prescriptions and Schedule of Papers for 2007

Mode of Delivery

*	= Not available in 2007
B1, B2, B3	= Available as a block course
E, E1, E2	= Available extramurally
F1	= Face to face teaching
I, I1, I2, I3, I4, I5, I6, I7, I8, I9, I10, I11, I12, I13, I14, I15, I16, I17, I18, I19, I20, I21, I22, I23, I24, I25, I26, I27, I28, I29, I30, I31, I32, I33, I34, I35, I36, I37, I38, I39, I40, I41, I42, I43, I44, I45, I46, I47	= Available internally

Semesters

S1	Semester One
S2	Semester Two
S3	Summer School
S12	Double Semester

Locations

AG	Auckland Geographic Area
AL	Massey Albany
CG	Christchurch Geographic Area
CH	Christchurch
EM	Employers and Manufacturers Assc
HK	Hokowhitu Campus
HW	Hawkes Bay
MA	Military Stds Inst. Auckland
NT	Email/Internet
PG	Papua New Guinea Geographic Area
PN	Massey Palmerston North
RU	Ruawharo Campus
SP	Singapore Aviation Academy
TH	Thailand Aviation Academy
TN	Tonga Geographic Area
WG	Wellington Geographic Area
WL	Massey Wellington

Paper No./Title	Credits	Sem	Mode	Loc
Technology and Engineering				
140.110	0 credits	S12	I	AL
Practicum I		S12	I	PN
A written report on a period of approved industrial work experience demonstrating understanding of the structure of industrial and commercial organisations and the role of professional staff, including engineers and technologists in such organisations.				
140.120	15 credits	S2	I	AL
Introduction to Food and Bioprocess Engineering		S2	I	PN
An introduction to process engineering. Heat transfer, introductory thermodynamics, mass and energy balancing, process flow diagrams. Introductory programming concepts and the use of computing in the food and bioproducts processing industries. A practical engineering course.				
140.125	15 credits	S1	I	AL
Communication and the Food and Bioproducts Industry	S1	I	PN	
An overview of the food and bioproducts processing industries. Information retrieval and written communication skills for the presentation of technological and research and development reports in industry. Selected aspects of marketing, product development, industrial chemistry and processing and their application in the food and bioproducts processing industries.				
140.150	15 credits	S1	I	AL
Technology and Engineering for Industry		S1	I	PN
Industrial organisations: structure, reliance on technological advance for competitive advantage, relationships with the wider community. Quantitative techniques for assessing investment strategies and approaches to problem-solving. Roles of professional technologists/engineers in industry. Written communication skills for presentation of technical research and developments reports in industry. A practical course.				
140.210	0 credits	S12	I	AL
Practicum II		S12	I	PN
A written report on a period of approved industrial work experience demonstrating understanding of the scientific, engineering and/or technological knowledge on which the operations of the organisation are based.				

Paper No./Title	Credits	Sem	Mode	Loc
140.220	0 credits	S12	I	WL
Practicum				
A written report on a period of approved industrial work experience, demonstrating understanding of the engineering and/or technological knowledge upon which the operations of the organisation are based.				
140.230	0 credits	S12	I	WL
Industrial Work Experience				
Approved industrial work experience resulting in a written report demonstrating the ability to apply theoretical knowledge to a practical situation, and critically analyse the operations of all or part of an industrial or commercial organisation.				
140.271	15 credits	S1	I	AL
Analogue Electronic Devices and Circuits				
An introduction to semiconductor devices, differential amplifier circuits and amplifier circuit frequency response analysis. The course will include a selection of topics, including the operation of Bipolar Junction Devices and Field Effect Devices, along with appropriate models, to provide a basis for understanding feedback and amplifier circuits.				
140.310	0 credits	S12	I	AL
Practicum III		S12	I	WL
A written report on a period of approved industrial work experience demonstrating the ability to critically analyse the operations of all or part of an industrial or commercial organisation to a professionally acceptable level of competence.				
140.320	15 credits	S2	I	AL
Embedded Systems Design				
Embedded systems design methodology and modelling techniques; specification and representation of embedded systems; hardware and software partitioning and cost estimation; interface synthesis and the real-time Operating System (RTOS); programming embedded systems; interfacing to external hardware and software; rapid prototyping and verification; system integration, debugging and testing; design projects for embedded systems supported by project-centred lectures.				
140.391	15 credits	S1	I	AL
Process Operations and Modelling		S1	I	PN
A study of particle technology and of concentration processes such as multistage evaporation, drying and membrane processing. A systematic approach to modelling process operations using ordinary differential equations. A laboratory course.				

Paper No./Title	Credits	Sem	Mode	Loc
140.392 Process Operations and Kinetics	15 credits S2	S2 I	I PN	AL
A study of process cooling, integrated thermal and hydraulic design of continuous heat exchangers and applied non-Newtonian fluid mechanics. Principles and applications of reaction kinetics and reactors. Bioreactors and bioreactions. A laboratory course.				
140.393 Project Engineering and Design	15 credits	S2	I	PN
Execution of capital expenditure projects, including feasibility and preliminary design studies, costing, preparation of flowsheet and layout diagrams, hazard analysis, consideration of ethical, legal and social issues, tendering and contract administration. Principles of engineering design and scale-up. Case studies. A practical course.				
140.394 Clean Technology and Utilities	15 credits	S1	I	PN
The supply and optimisation of plant utilities including cooling, heating and electricity. Methods of process auditing including surveys and process integration. Life Cycle Analysis.				
140.429 Applied Multimedia Signal Processing	15 credits	S1	I	AL
A course that covers the latest technology and algorithms concerned with the compression, manipulation and transmission of digital audio and video. The subjects covered relate to such topics as MPEG I layer III encoding for digital audio and MPEG II for digital television and Internet applications. Other topics covered will be equivalent systems such as Sony Minidisk. Some additional topics of advanced signal processing will be discussed such as pitch shifting algorithms, time stretching, motion estimation, image enhancement and digital video disk technology.				
140.701 Special Topic	15 credits	S1 S1 S1 S2	E I I E	PN AL PN PN
140.702 Special Topic	30 credits	S1 S1 S12 S12	I I I I	AL PN AL PN
140.711 Research Report (Technology and Engineering)	30 credits	S1 S1 S12	I I I	AL PN AL
Research in a defined area of Technology and Engineering.				
140.711 Research Report (Technology and Engineering)	30 credits	S1 S1 S12 S12	I I I I	AL PN A PN
Research in a defined area of Technology and Engineering.				
140.712 Research Report (Technology and Engineering)	60 credits	S1 S1 S12 S12	I I I I	AL PN AL PN
Research in a defined area of Technology and Engineering.				
140.791 Advanced Topics in Technology and Engineering	30 credits	S12 S12	I I	AL PN
Critical reviews, case studies, advanced study and/or research into selected aspects of Technology and Engineering.				
140.801 Special Topic	15 credits	S1 S1 S2 S2	I I I I	AL PN AL PN

Paper No./Title	Credits	Sem	Mode	Loc
140.802 Research Report	30 credits	S1 S1 S12 S12	I I I I	AL PN AL PN
Research in a defined area of Technology and Engineering.				
140.803 Research Report	60 credits	S1 S1 S12 S12	I I I I	AL PN AL PN
Research in a defined area of Technology and Engineering.				
140.805 Thesis	120 credits	S12 S12 S12	I I I	AL PN WL
Research in a defined area of Technology and Engineering.				
140.806 Thesis (Year 1)	60 credits	S1 S1 S1 S12	I I I I	AL PN WL AL
140.807 Thesis (Year 2)	60 credits	S1 S1 S1 S12	I I I I	AL PN WL AL
140.900 PhD Technology	120 credits	S12 S12	I I	AL PN