HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

BACKGROUND

Honours are awarded on the basis of performance in a defined set of 12 units (150 credit points) for each course chosen from advanced levels of the program. These units are chosen or have been nominated by the program coordinator in consultation with the program panel as representing key values of an engineering programs, as broadly expressed by the Institution of Engineers Australia guidelines and must be approved by the Faculty Academic Committee (FAC).

PROCEDURE

The Engineering honours working group proposes the following scheme for Engineering honours calculation. The scheme is designed to be clear and fair for both single and double degree programs involving engineering.

Part A - Pre-2010 Students *(Students who commenced their studies before 2010)*

1) A set of 12 units selected as follows:

For Undergraduate single engineering degrees, the 12 units (or 150 credit points) will normally be a nominated set, taken from last two years of the recommended program sequence.

For Undergraduate double degree combinations, the honours applies to the Engineering degree, and the 12 units (150 credit points) are to broadly match those for the single degree as far as possible. There will normally be at least 9 units (112.5 credit points) from the single degree honours group, with the remainder drawn from post-second year pool of units.

For double degree in Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics and Computer Systems), 12 chosen units are: one Management, one unit from Biomedical Sciences (Physiological Modelling) and the rest are Engineering units.

2) Compute the simple average of the results using the chosen units for each program

Unless otherwise noted in the individual programs, average the marks from these 12 units to compute a single number.

Any enrolment, apart from withdrawal (WD) by the census date, will be considered as an attempt.

- ***If the student fails an honours unit, they may repeat once and 80% of the second attempt will be considered.***
- ***If the student passes an honours unit, no repeats will be allowed and the first mark will be counted.***

Assign honours classifications

The following classifications are currently used:

H1 = 80% – upwards

H2A = 75 – 79%

H2B = 70 – 74%

H3 = 65 – 69%

Periodically, the honours levels and units in programs will be reviewed, to ensure they are appropriate, and remain appropriate relative to other Australian Universities.

HONOURS CALCULATION PROCEDURE

Part B - Post 2010 students *(Students who commenced their studies in 2010)*

1) A set of 12 units selected as follows:

For Undergraduate single and double engineering degrees, the 12 units (150 credit points) for each program are chosen from advanced levels.

For double degree in Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics and Computer Systems), 12 chosen units are: one Management, one unit from Biomedical Sciences (Physiological Modelling) and the rest are Engineering units

2) Compute the simple average of the results using the chosen units for each program

Unless otherwise noted in the individual programs, average the marks from these 12 units to compute a single number.

Any enrolment, apart from withdrawal (WD) by the census date, will be considered as an attempt.

- ***The mark for the student's first attempt will be counted and the only result considered.***
- ***Where a student has already passed a unit, no further attempt will be allowed.***

Assign honours classifications

H1 = 80% – upwards , First Class Honours

H2A = 75 – 79.9%, Upper Second Class Honours

H2B = 70 – 74.9%, Lower Second Class Honours

H3 = 65 – 69.9%, Third Class Honours

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

General Rules

- The Calculated grade is rounded off the nearest whole number (i.e., 68.5 becomes 69, 68.4 becomes 68).

- Where a student is granted exemptions, the student must complete a minimum of nine units approved as counting towards Honours.

- Students undertaking an approved Study Abroad program are allowed to study up to 4 Honours units overseas, for which we will give exemptions, making their eligibility for Honours a minimum of 8 Honours units taken at Swinburne.

- As of December 2010 ceremony, students graduating from Sarawak will receive an Honours level.

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

Programs in Faculty of Engineering & Industrial Sciences

HONOURS CALCULATION PROCEDURE

A103 – Master of Engineering (Microelectronic Engineering) (Honours)

Honours are calculated in two ways:

- *75% or greater is achieved in the final 50 credit points (Fourth stage of a full-time two- year program) or,*
- *70% average grade or higher in the final 100 credit points (Final two stages of a full-time two-year program)*

If this performance level is **not achieved**, then the student will be awarded a standard **A100 - Master of Engineering (Microelectronic Engineering) degree.**

IRAMT4 – Master of Engineering (Advanced Manufacturing Technology) (Honours)

Stage 3
HIR513 – MASTERS PROJECT
HIT9010 – RESEARCH METHODS
Elective (Stage 3)
Stage 4
HIR514 – MASTERS THESIS

NB: Honours are calculated in two ways:

- *75% or greater is achieved for Stage 4 (50 credit points) or,*
- *70% or greater is achieved for the combined average of Stage 3 (50 credit points) and Stage 4 (50 credit points) (Stage 3 marks are averaged, then this average mark is averaged again with stage 4 mark).*

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

Part A – Pre-2010

C050 – Bachelor of Engineering (Civil Engineering)
(for students who commenced their studies between 2005 to 2009)

1	HES2125 – DESIGN OF CONCRETE STRUCTURES
2	HES3112 – URBAN WATER RESOURCES
3	HES3121 – DESIGN OF STEEL STRUCTURES
4	HES3150 – GEOTECHNICAL ENGINEERING
5	HES4126 – STRUCTURAL ENGINEERING
6	HES4136 – TRANSPORT ENGINEERING
7	HES4146 – WATER AND ENVIRONMENTAL ENGINEERING
8	HES5190 – INFRASTRUCTURE DESIGN & PROJECT
9	HES5175 – COST ENGINEERING
10	HES3380 – ENGINEERING MANAGEMENT 1
11	HES5195 – INFRASTRUCTURE MANAGEMENT PROJECT
12	HES5108 – RESEARCH PROJECT

ECB050 – Bachelor of Engineering (Civil Engineering) / Bachelor of Business
(for students who commenced their studies between 2005 to 2009)

1	HES2125 - DESIGN OF CONCRETE STRUCTURES
2	HES3112 – URBAN WATER RESOURCES
3	HES3121 – DESIGN OF STEEL STRUCTURES
4	HES3150 – GEOTECHNICAL ENGINEERING
5	HES4126 – STRUCTURAL ENGINEERING
6	HES4136 – TRANSPORT ENGINEERING
7	HES4146 – WATER AND ENVIRONMENTAL ENGINEERING
8	HES5190 – INFRASTRUCTURE DESIGN & PROJECT
9	HES5195 – INFRASTRUCTURE MANAGEMENT PROJECT
10	HES5108 – RESEARCH PROJECT
11, 12	Post 2nd year Business Average

Business Suite of Units
Business units (post second year) will be averaged to provide equivalent of 25 credit points weighting.

HONOURS CALCULATION PROCEDURE

E051 – Bachelor of Engineering (Electronics and Computer Systems)
(for students who commenced their studies between 2004 to 2009)

1	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2	HET308 – CIRCUITS & ELECTRONICS 2
3	HET312 – CONTROL & AUTOMATION
4	HET316 – ELECTROMAGNETIC WAVES
5	HET378 - INTEGRATED CIRCUIT DESIGN
6	HET416 – COMPUTER SYSTEMS ENGINEERING
7	HET513 – DESIGN OF DSP ARCHITECTURES
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET515 – ADVANCED EMBEDDED SYSTEMS
11	Best of Specialist Elective
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HES5385 – ENGINEERING MANAGEMENT 3
HBSG300 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

EB051 – Bachelor of Engineering (Electronics & Computer Systems) / Bachelor of Business
(for students who commenced their studies between 2004 to 2009)

1	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2	HET308 – CIRCUITS & ELECTRONICS 2
3	HET312 – CONTROL & AUTOMATION
4	HET316 – ELECTROMAGNETIC WAVES
5	HET378 – INTEGRATED CIRCUIT DESIGN
6	HET416 – COMPUTER SYSTEMS ENGINEERING
7	HET513 – DESIGN OF DSP ARCHITECTURES
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET515 – ADVANCED EMBEDDED SYSTEMS
11	Best (highest) Specialist Elective
12	Business Units average

Business Suite of Units
Business units (post second year) will be averaged to provide a equivalent of 12.5 credit points

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

E057 – Bachelor of Engineering (Electrical and Electronic Engineering)
(for students who commenced their studies between 2005 to 2009)

1	HET228 – ELECTRICAL ACTUATORS AND SENSORS **or** HET225 – ELECTRICAL MACHINES
2	HET326 – ELECTRICAL POWER SYSTEMS
3	HET308 – CIRCUITS & ELECTRONICS 2
4	HET312 – CONTROL & AUTOMATION
5	HET316 – ELECTROMAGNETIC WAVES
6	HET378 – INTEGRATED CIRCUIT DESIGN
7	HET489 – ROBOTIC CONTROL
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET559 – POWER ELECTRONICS
11	Best (highest) Specialist Elective
12	Best (highest) Management Elective

Management electives
HES3380 – ENGINEERING MANAGEMENT 2
HES5380 – ENGINEERING MANAGEMENT 2
HBSG300 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

EC051 – Bachelor of Engineering (Electronics & Computer Systems) / Bachelor of Science (Computer Science & Software Engineering)
(for students who commenced their studies between 2004 to 2009)

1	HET378 – INTEGRATED CIRCUIT DESIGN
2	HET308 – CIRCUITS & ELECTRONICS 2 **or**
	HET386 – ANALOGUE ELECTRONICS 2
3	HET316 – ELECTROMAGNETIC WAVES
4	HET416 – COMPUTER SYSTEMS ENGINEERING
5	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
6	HET513 – DESIGN OF DSP ARCHITECTURES
7	HET515 – ADVANCED EMBEDDED SYSTEMS
8	HET552 – DESIGN & DEVELOPMENT PROJECT
9	HIT3158 – SOFTWARE ENGINEERING PROJECT A
10	HIT3258 – SOFTWARE ENGINEERING PROJECT B
11	Technical Elective
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HBSG300 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

M050 – Bachelor of Engineering (Mechanical Engineering)
(for students who commenced their studies between 2004 to 2009)

1	HES3350 – MACHINE DESIGN
2	HES3360 – HUMAN FACTORS
3	HES3310 – CONTROL ENGINEERING
4	HES4350 – MECHANICAL SYSTEMS DESIGN
5	HES5320 – SOLID MECHANICS
6	HES4330 – THERMODYNAMICS 2
7	HES3380 – ENGINEERING MANAGEMENT 1
8	HES5380 – ENGINEERING MANAGEMENT 2 **or**
	HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT
9	HES5310 – MACHINE DYNAMICS 2
10	HES5340 – FLUID MECHANICS 2
11	HES5102 – RESEARCH PROJECT
12	HES5103 – ADVANCED RESEARCH PROJECT

EMB050 – Bachelor of Engineering (Mechanical Engineering) / Bachelor of Business
(for students who commenced their studies between 2004 to 2009)

1	HES3350 – MACHINE DESIGN
2	HES3360 – HUMAN FACTORS
3	HES3310 – CONTROL ENGINEERING
4	HES4350 – MECHANICAL SYSTEMS DESIGN
5	HES5320 – SOLID MECHANICS
6	HES4330 – THERMODYNAMICS 2
7	HES5310 – MACHINE DYNAMICS 2
8	HES5340 – FLUID MECHANICS 2
9	HES5102 – RESEARCH PROJECT **or**
	HES5106(A) – RESEARCH PROJECT A
10	HES5103 – ADVANCED RESEARCH PROJECT **or**
	HES5106(B) – RESEARCH PROJECT B
11, 12	Business Units (2 Highest Stage 3 units from the Business Major)

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

PDE50 – Bachelor of Engineering (Product Design Engineering)
(for students who commenced their studies between 2004 to 2009)

1	HDPD311 – PRODUCT DESIGN 5 or HDPD314 – PRODUCT DESIGN ENGINEERING 3
2	HES3334 – THERMOFLUID SYSTEMS **or** HES2330 – THERMODYNAMICS 1
3	HES3350 – MACHINE DESIGN
4	HES3380 – ENGINEERING MANAGEMENT 1
5	HDPD321 – PRODUCT DESIGN 6 (25 credit points) **or** HDPD324 – PRODUCT DESIGN ENGINEERING 4
6	HDPD321 – PRODUCT DESIGN 6 (25 credit points) **or** HDPD512 – PROFESSIONAL PROJECT 1
7	HES4250 – DESIGN FOR MANUFACTURE
8	HES4280 – MANUFACTURING TECHNOLOGY 2 **or** HES3281 – MATERIALS AND MANUFACTURING 2 **or** HES4350 – MECHANICAL SYSTEMS DESIGN
9	HDPD511 – PRODUCT DESIGN 7 **or** HDPD514 – PRODUCT DESIGN ENGINEERING 5
10	HES3360 – HUMAN FACTORS **or** HES5210 – INDUSTRIAL SYSTEMS
11	HDPD522 – PROFESSIONAL PROJECT 2
12	HES5380 – ENGINEERING MANAGEMENT 2 **or** HES5385 – ENGINEERING MANAGEMENT 3 **or** HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

Note:

For elective units, use the highest elective in the first attempt.
Where there is a choice of units, the highest grade unit should be used

HONOURS CALCULATION PROCEDURE

R050 – Bachelor of Engineering (Robotics & Mechatronics)
(for students who commenced their studies between 2004 to 2009)

1	HES3350 – MACHINE DESIGN
2	HES3360 – HUMAN FACTORS
3	HES3380 – ENGINEERING MANAGEMENT 1
4	HES5380 – ENGINEERING MANAGEMENT 2 **or**
	HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT
5	HES5310 – MACHINE DYNAMICS 2
6	HET312 – CONTROL & AUTOMATION
7	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
8	HET344 – MECHATRONICS SYSTEMS DESIGN
9	HET489 – ROBOTIC CONTROL
10	HES5250 – ROBOT SYSTEMS DESIGN **or**
	HIR505 – ROBOTICS IN MANUFACTURING
11	HET557 – DESIGN & DEVELOPMENT PROJECT 2
12	HIT1031 – INTRODUCTION TO SOFTWARE ENGINEERING **or**
	HIT1052 – SOFTWARE DEVELOPMENT 2 **or**
	HIT3172 – OBJECT ORIENTED PROGRAMMING IN C++

ERCS050 – Bachelor of Engineering (Robotics & Mechatronics) / Bachelor of Science (Computer Science & Software Engineering)
(for students who commenced their studies between 2004 to 2009)

1	HES3350 – MACHINE DESIGN
2	HES3360 – HUMAN FACTORS
3	HET312 – CONTROL & AUTOMATION
4	HET344 – MECHATRONICS SYSTEMS DESIGN
5	HES3380 – ENGINEERING MANAGEMENT 1
6	HES5380 – ENGINEERING MANAGEMENT 2 **or**
	HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT
7	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
8	HET489 – ROBOTIC CONTROL
9	HIT1031 – INTRODUCTION TO SOFTWARE ENGINEERING **or**
	HIT1052 – SOFTWARE DEVELOPMENT 2 / HIT3054 – C++ FOR JAVA PROGRAMMERS **or**
	HIT3172 – OBJECT ORIENTED PROGRAMMING IN C++
10	HES5310 – MACHINE DYNAMICS 2
11	HES5250 – ROBOT SYSTEMS DESIGN
12	HET553 – SOFTWARE ENGINEERING AND ROBOTICS PROJECT **or**
	HET557 – DESIGN & DEVELOPMENT PROJECT 2

HONOURS CALCULATION PROCEDURE

S040 – Bachelor of Science (Biomedical Sciences) / Bachelor of Engineering (Electronics & Computer Systems)
(for students who commenced their studies between 2004 to 2009)

1	HET312 – CONTROL & AUTOMATION
2	HET314 – COMMUNICATIONS PRINCIPLES
3	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
4	HET378 – INTEGRATED CIRCUIT DESIGN
5	HET417 – PHOTONICS & FIBRE OPTICS **or**
	HET513 – DESIGN OF DSP ARCHITECTURES
6	HET419 – PHYSIOLOGICAL MODELLING
7	HET416 – COMPUTER SYSTEMS ENGINEERING
8	HET515 – ADVANCED EMBEDDED SYSTEMS
9	HET550 – DESIGN & DEVELOPMENT PROJECT 1
10	HET556 – DESIGN & DEVELOPMENT PROJECT 2
11	Best Technical Elective
12	Best of Management Electives

Technical electives
HET489 – ROBOTIC CONTROL
HET432 – INTERNETWORKING / HIT3138 – INTELLIGENT SYSTEMS
HET315 – COMMUNICATIONS INFORMATION THEORY

Management electives
HES3380 – ENGINEERING MANAGEMENT 1
HES5380 – ENGINEERING MANAGEMENT 2
HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

S060 – Bachelor of Science (Photonics) / Bachelor of Engineering (Telecommunications and Internet Technologies)

1	HET314 – COMMUNICATIONS PRINCIPLES
2	HET336 – NETWORK MODELLING AND ANALYSIS
3	HET316 – ELECTROMAGNETIC WAVES
4	HET307 – ADVANCED ROUTING & SWITCHING
5	HET315 – COMMUNICATIONS INFORMATION THEORY
6	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
7	HET550 – DESIGN & DEVELOPMENT PROJECT 1
8	HET436 – BROADBAND MULTIMEDIA NETWORKS
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET452 – WIRELESS COMMUNICATIONS
11	HET306 – UNIX FOR TELECOMMUNICATIONS
12	Management Elective

Management electives
HES3380 – ENGINEERING MANAGEMENT 1
HES5380 – ENGINEERING MANAGEMENT 2
HBSG300 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

Z029 – Bachelor of Engineering (Biomedical Engineering)
(for students who commenced their studies between 2005 to 2007)

1	HET235 – BIOMEDICAL ELECTRONICS
2	HET408 – BIOMEDICAL IMAGING & EMERGING TECHNOLOGIES
3	HET419 – PHYSIOLOGICAL MODELLING
4	HET232 – EMBEDDED MICROCONTROLLERS
5	HET286 – CIRCUITS AND SYSTEMS
6	HET550 – DESIGN & DEVELOPMENT PROJECT
7	HET556 – DESIGN & DEVELOPMENT PROJECT
8	HET491 – ADVANCED BIOMEDICAL INSTRUMENTATION
9	HET314 – COMMUNICATIONS PRINCIPLES
10, 11	Best two from Elective Units
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

Z029 – Bachelor of Engineering (Biomedical Engineering)
(for students who commenced their studies in 2008)

1	HET235 – BIOMEDICAL ELECTRONICS
2	HET408 – BIOMEDICAL IMAGING & EMERGING TECHNOLOGIES
3	HET419 – PHYSIOLOGICAL MODELLING
4	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
5	HET491 – ADVANCED BIOMEDICAL INSTRUMENTATION
6	HET550 – DESIGN & DEVELOPMENT PROJECT
7	HET556 – DESIGN & DEVELOPMENT PROJECT
8, 9	Two Technical Elective Units
10, 11	Best two from all other Elective Units
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

Z029 – Bachelor of Engineering (Biomedical Engineering)
(for students who commenced their studies in 2009 and 2010)

1	HET235 – BIOMEDICAL ELECTRONICS
2	HET408 – BIOMEDICAL IMAGING & EMERGING TECHNOLOGIES
3	HET419 – PHYSIOLOGICAL MODELLING
4	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
5	HET490 – ADVANCED BIOMEDICAL IMAGING
6	HET491 – ADVANCED BIOMEDICAL INSTRUMENTATION
7	HET550 – DESIGN & DEVELOPMENT PROJECT
8	HET556 – DESIGN & DEVELOPMENT PROJECT
9, 10	Best Two from Technical StudiesUnits
11	Best of Specialist Studies **or** Elective Plus **or** Minor
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

Part B - Post 2010 Students

C050 – Bachelor of Engineering (Civil Engineering)
ECM050 – Bachelor of Engineering (Civil Engineering)/Bachelor of Commerce
(for students commencing 2010 onwards)

1 HES2125 - DESIGN OF CONCRETE STRUCTURES
2 HES3112 – URBAN WATER RESOURCES
3 HES3121 – DESIGN OF STEEL STRUCTURES
4 HES3150 – GEOTECHNICAL ENGINEERING
5 HES4126 – STRUCTURAL ENGINEERING
6 HES4136 – TRANSPORT ENGINEERING
7 HES4146 – WATER AND ENVIRONMENTAL ENGINEERING
8 HES5175 – COST ENGINEERING
9 HES5190 – INFRASTRUCTURE DESIGN & PROJECT
10 HES3380 – ENGINEERING MANAGEMENT 1
11, HES5195 – INFRASTRUCTURE MANAGEMENT PROJECT
12 HES5108 – RESEARCH PROJECT

E051 – Bachelor of Engineering (Electronics and Computer Systems)
(for students commencing 2010 onwards)

1 HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2 HET386 – ANALOGUE ELECTRONICS **or**
HET308 – CIRCUITS & ELECTRONICS 2
3 HET312 – CONTROL & AUTOMATION
4 HET316 – ELECTROMAGNETIC WAVES
5 HET378 - INTEGRATED CIRCUIT DESIGN
6 HET416 – COMPUTER SYSTEMS ENGINEERING
7 HET513 – DESIGN OF DSP ARCHITECTURES
8 HET550 – DESIGN & DEVELOPMENT PROJECT 1
9 HET556 – DESIGN & DEVELOPMENT PROJECT 2
10 HET515 – ADVANCED EMBEDDED SYSTEMS
11 HET314 – COMMUNICATIONS PRINCIPLES
12 HES3380 - ENGINEERING MANAGEMENT 1

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

EM051 – Bachelor of Engineering (Electronics & Computer Systems) / Bachelor of Commerce
(for students commencing 2010 onwards)

1	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2	HET386 – ANALOGUE ELECTRONICS **or**
	HET308 – CIRCUITS & ELECTRONICS 2
3	HET312 – CONTROL & AUTOMATION
4	HET316 – ELECTROMAGNETIC WAVES
5	HET378 - INTEGRATED CIRCUIT DESIGN
6	HET416 – COMPUTER SYSTEMS ENGINEERING
7	HET513 – DESIGN OF DSP ARCHITECTURES
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET515 – ADVANCED EMBEDDED SYSTEMS
11	HET314 – COMMUNICATIONS PRINCIPLES
12	HES3380 - ENGINEERING MANAGEMENT 1

E057 – Bachelor of Engineering (Electrical and Electronic Engineering)
(for students commencing 2010 onwards)

1	HET386 – ANALOGUE ELECTRONICS **or**
	HET308 – CIRCUITS & ELECTRONICS 2
2	HET312 – CONTROL & AUTOMATION
3	HET316 – ELECTROMAGNETIC WAVES
4	HET378 – INTEGRATED CIRCUIT DESIGN
5	HET326 – ELECTRICAL POWER SYSTEMS
6	HET489 – ROBOTIC CONTROL
7	HET559 – POWER ELECTRONICS
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
11	HET314 – COMMUNICATIONS PRINCIPLES
12	HES3380 - ENGINEERING MANAGEMENT 1

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

EM057 – Bachelor of Engineering (Electrical and Electronic Engineering) / Bachelor of Commerce
(for students commencing 2010 onwards)

1	HET386 – ANALOGUE ELECTRONICS **or**
	HET308 – CIRCUITS & ELECTRONICS 2
2	HET312 – CONTROL & AUTOMATION
3	HET316 – ELECTROMAGNETIC WAVES
4	HET378 – INTEGRATED CIRCUIT DESIGN
5	HET326 – ELECTRICAL POWER SYSTEMS
6	HET489 – ROBOTIC CONTROL
7	HET559 – POWER ELECTRONICS
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
11	HET314 – COMMUNICATIONS PRINCIPLES
12	HES3380 - ENGINEERING MANAGEMENT 1

EC051 – Bachelor of Engineering (Electronics & Computer Systems) / Bachelor of Science (Computer Science & Software Engineering)
(for students commencing 2010 onwards)

1	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2	HET386 – ANALOGUE ELECTRONICS **or**
	HET308 – CIRCUITS & ELECTRONICS 2
3	HET312 – CONTROL & AUTOMATION
4	HET316 – ELECTROMAGNETIC WAVES
5	HET378 - INTEGRATED CIRCUIT DESIGN
6	HET416 – COMPUTER SYSTEMS ENGINEERING
7	HET513 – DESIGN OF DSP ARCHITECTURES
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET515 – ADVANCED EMBEDDED SYSTEMS
11	HET314 – COMMUNICATIONS PRINCIPLES
12	HES3380 - ENGINEERING MANAGEMENT 1

HONOURS CALCULATION PROCEDURE

M050 – Bachelor of Engineering (Mechanical Engineering)
EMM050 – Bachelor of Engineering (Mechanical Engineering) / Bachelor of Commerce
(for students commencing 2010 onwards)

1	HES3350 - MACHINE DESIGN
2	HES3310 – CONTROL ENGINEERING
3	HES3281 – MATERIALS AND MANUFACTURING 2
4	HES3380 – ENGINEERING MANAGEMENT 1
5	HES4350 – MECHANICAL SYSTEMS DESIGN
6	HES5320 – SOLID MECHANICS
7	HES4330 – THERMODYNAMICS 2
8	HES5310 – MACHINE DYNAMICS 2
9	HES5102 – RESEARCH PROJECT
10	HES5340 – FLUID MECHANICS 2
11,	**HES5380 – ENGINEERING MANAGEMENT 2
12	HES5103 – ADVANCED RESEARCH PROJECT

***Students enrolled in the single degree may replace this unit with HBSG200 – New Venture Development and Management*

PDE50 – Bachelor of Engineering (Product Design Engineering)
(for students commencing 2010 onwards)

1	HDPD314 – PRODUCT DESIGN ENGINEERING 3
2	HES3350 – MACHINE DESIGN
3	HES3334 – THERMOFLUID SYSTEMS
4	HES3380 – ENGINEERING MANAGEMENT 1
5	HDPD324 – PRODUCT DESIGN ENGINEERING 4
6	HES4350 – MECHANICAL SYSTEMS DESIGN
7	HES4250 – DESIGN FOR MANUFACTURE
8	HDPD512 – PROFESSIONAL PROJECT 1
9	HDPD514 – PRODUCT DESIGN ENGINEERING 5
10	HES3360 – HUMAN FACTORS
11,	HDPD522 – PROFESSIONAL PROJECT 2
12	HES5380 – ENGINEERING MANAGEMENT 2 or HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT

HONOURS CALCULATION PROCEDURE

R050 – Bachelor of Engineering (Robotics & Mechatronics)
ERCS050 – Bachelor of Engineering (Robotics & Mechatronics) / Bachelor of Science (Computer Science & Software Engineering)
ERM050 – Bachelor of Engineering (Robotics & Mechatronics) / Bachelor of Commerce
(for students commencing 2010 onwards)

1	HET232 – EMBEDDED MICROCONTROLLERS
2	HE3350 – MACHINE DESIGN
3	HET312 – CONTROL & AUTOMATION
4	HET344 – MECHATRONICS SYSTEMS DESIGN
5	HES3380 – ENGINEERING MANAGEMENT 1
6	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
7	HET489 – ROBOTIC CONTROL
8	HIT3172 – OBJECT ORIENTED PROGRAMMING IN C++
9	HET5310 – MACHINE DYNAMICS 2
10	HET551 – DESIGN & DEVELOPMENT PROJECT 1
11,	HET557 – DESIGN & DEVELOPMENT PROJECT 2
12	HES5250 – ROBOT SYSTEMS DESIGN

S040Y – Bachelor of Engineering (Electronics & Computer Systems) / Bachelor of Science (Biomedical Sciences)
(for students commencing 2010 onwards)

1	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
2	HET386 – ANALOGUE ELECTRONICS **or** HET308 – CIRCUITS & ELECTRONICS 2
3	HET312 – CONTROL & AUTOMATION
4	HET316 – ELECTROMAGNETIC WAVES
5	HET378 - INTEGRATED CIRCUIT DESIGN
6	HET416 – COMPUTER SYSTEMS ENGINEERING
7	HET513 – DESIGN OF DSP ARCHITECTURES
8	HET550 – DESIGN & DEVELOPMENT PROJECT 1
9	HET556 – DESIGN & DEVELOPMENT PROJECT 2
10	HET515 – ADVANCED EMBEDDED SYSTEMS
11	HET314 – COMMUNICATIONS PRINCIPLES
12	HES3380 - ENGINEERING MANAGEMENT 1

HONOURS CALCULATION PROCEDURE

SWINBURNE UNIVERSITY OF TECHNOLOGY

Z029 – Bachelor of Engineering (Biomedical Engineering)
(for students commencing in 2010)

1	HET235 – BIOMEDICAL ELECTRONICS
2	HET408 – BIOMEDICAL IMAGING & EMERGING TECHNOLOGIES
3	HET419 – PHYSIOLOGICAL MODELLING
4	HET329 – DIGITAL SIGNAL & IMAGE PROCESSING
5	HET490 – ADVANCED BIOMEDICAL IMAGING
6	HET491 – ADVANCED BIOMEDICAL INSTRUMENTATION
7	HET550 – DESIGN & DEVELOPMENT PROJECT
8	HET556 – DESIGN & DEVELOPMENT PROJECT
9, 10	Best Two from Technical StudiesUnits
11	Best of Specialist Studies **or** Elective Plus **or** Minor
12	Best Management Elective

Management electives
HES5380 – ENGINEERING MANAGEMENT 2
HBSG200 – NEW VENTURE DEVELOPMENT AND MANAGEMENT