



BACHELOR OF BIOMEDICAL SCIENCE

Student Course Guide

2010

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MONASH UNIVERSITY

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on the 25th day of January, 2010

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Welcome

Welcome to the Bachelor of Biomedical Science!

Biomedical Science will be the key to advances in medical treatments and improvements to human health for this century. From molecules to microbes to medicine; from body systems to biotechnology; from human genome to health policy, you will study all of these and more during your course. The Biomedical Science degree will provide you with an amazing range of career opportunities. This course is unique because it provides a broad foundation in the biomedical sciences while allowing students the flexibility to choose to develop specialised skills within the area of biomedical science or within other disciplines. When you graduate, you will be well equipped to meet a broad range of vocational and academic opportunities.

General Information

Semester dates for 2010

Orientation week

22 February – 26 February

Semester 1

1 March – 4 June

Semester 2

19 July – 22 October

Mid-semester break

2 April – 9 April

Mid-semester break

27 September – 1 October

Exam period

10 June – 2 July

Exam period

28 October – 19 November

Students can collect a free university student diary by presenting their student id card to the Information Desk in the Campus Centre. This is a valuable resource containing many of the important dates and details of resources available to students.

The Transition Program

A transitional program is held for all first year students. This program is a compulsory component of the Biomedical Science course. The social and academic issues relating to transition to university life will be explored and career options and course planning discussed. This program is largely student organised and orientated and as such will rely heavily on the involvement of current students.

Allocate+

(The information in the following section is taken from the University website on Allocate+, which can be found at: <http://allocate.cc.monash.edu.au>).

Allocate+ is an online allocation system useable from any computer in the world, via the internet, that enables you to allocate yourself into laboratory and tutorial classes. The system allows you to enter preferences for labs tutorials, workshops and other classes and then sorts all student preferences and evenly allocates students into their preferences to create an individual clash-free timetable for each student. Allocate+ is a fair system, as it allocates students into classes based on their availability rather than on a 'first-come-first-served' basis.

What do I need to do?

You need to enter your time-slot preferences for all or your activities (lectures, tutorials, seminars, etc) in all of your enrolled units. Once Allocate+ is open in **Preference Entry** mode, you should browse available timeslots for all enrolled activities and specify your personal preferences for timeslots that you would like to attend. See the Important dates to find out when the system is open in this mode.

Your preferences are collected, ranked, randomised and sorted. Once Allocate+ is open in **Allocation Adjustment** mode, you may view your clash free timetable. If you are not happy with your allocation, or have not been allocated to an activity, you may choose from available remaining timeslots for an instant allocation.

If you are **having problems** with your timetable that you are unable to fix, you may email the School of Biomedical Sciences staff at biomed.allocate@med.monash.edu.au. Please make sure you include your name, student id number and a description of your problem. If you omit any of these details, there may be delays in processing your query.

If your timetable has a clash between scheduled classes, the staff will examine the problem and attempt to rectify the difficulty as soon as possible. Preference is given to these types of problems.

In the event that you have outside commitments that require alterations to your timetable, you will need to complete the Change to Allocation Request Form. This form can be collected from the School of Biomedical Sciences office. Once you have completed and returned this form, your request will be assessed at the end of the first week of semester because clashes will need to receive priority. When we have been able to accommodate you, or if further information is required, an email will be sent to your student email account. Please note that it is not always possible to accommodate all these changes.

Allocate+ Student

The screenshot shows the Allocate+ Student interface. On the left, there is a sidebar with a list of units and their associated class types, such as BMS1042 (CL_S2_DAY), BMS1052 (CL_S2_DAY), BMS1062 (CL_S2_DAY), and MTH1020 (CL_S2_DAY). The main area displays a weekly timetable grid. The columns represent time slots from 8 am to 6 pm, and the rows represent days of the week from Monday to Saturday. Each cell in the grid contains information about a class, including the unit code, campus, semester, class type, activity, and dates. For example, on Monday at 9 am, there is a BMS1052 CL_S2_DAY Lecture, 01-P1 at CL_08/R1 from 17/7-18/9 and 2/10-15/10. The interface also includes a 'Welcome' message and a 'Show as list' link.

The image above illustrates the type of information that allocate+ will show on your timetable. In each cell, you will find:

- The unit code (eg BMS1052), the campus (CL for Clayton), the semester (S1 for semester 1 and S2 for semester 2) and the type of class (Day for during the hours of 8am and 6pm)
- The type of activity will be listed next (eg Lecture, Laboratory or Tutorial) with an indication of whether more than one stream is offered and the parts to each stream (01-P1 indicates the first part of stream 1). Please note for most biomedical science units only one lecture stream is provided.
- The venue. For example CL_08/R1 indicates the venue is on the Clayton campus (CL) in building 8 and room R1.
- The times during semester that the class is scheduled. For example 18/7-19/9, 3/10-17/10. The dates are not booked for the mid-semester breaks.

Timetable changes

Lecture and tutorial times are subject to change, so it is important that you check your preferences close to the commencement of semester to ensure that you selections are still valid and offered.

Important dates

Date / Time	Event
Tuesday, January 12, 10am	Allocate+ opens to student in <i>Preference Entry Mode</i>
Thursday, February 18, 5pm	Allocate+ closes to students
Tuesday, February 23, 7am	Allocate+ opens to student in <i>Allocation Adjustment Mode</i>
Monday, March 1	Semester commences
Monday, March 22, 5pm	<i>Allocation Adjustment Mode</i> closes. <i>View Only Mode</i> opens.

Assessment

Each unit convenor will inform students of assessment tasks at the beginning of each unit. All essays and assignments **must** have a covering sheet on plagiarism when submitted. By signing this coversheet, you are indicating that the piece of work you have submitted has been completed by you. Assessment will not be accepted if you fail to complete or sign the coversheet, and thus, you will not receive the marks for the relevant work. Copies of the coversheets for individual and group work can be found at: <http://www.med.monash.edu.au/sobs/teaching/plagiarism.htm>.

Student's attention is drawn to the university policy on cheating and plagiarism. A website that all students should pay close attention to is the Monash University Cheating and Plagiarism Policy and Procedures: <http://www.adm.monash.edu/unisec/academicpolicies/policy/plagiarism.html>.

Special Consideration / Deferred Examinations

A student whose work, during a teaching period or performance in an examination or other assessment, has been affected by illness or other serious cause may apply in writing for special consideration in the form of a deferred examination, by the examiners or board of examiners concerned.

Such serious causes include:

- * serious illness or psychological condition – for example hospital admission, serious injury, severe asthma, severe anxiety or depression. This does not include minor illness such as a mild cold.
- * Loss or bereavement – for example, the death of a close family member, family relationship breakdown.
- * Hardship/trauma – for example, victim of crime, sudden loss of income or employment, severe disruption to domestic arrangements.

This application form is available at <http://www.adm.monash.edu.au/service-centre/forms/>. An application for consideration must be accompanied by appropriate supporting documentation and evidence from a qualified practitioner. Special consideration should be applied for as soon as the particular circumstances arise. In particular, special consideration is usually applied for prior to exams. Applications should be made no more than two (2) working days after your final examination for that semester.

Please note: this is an **application only**. It does not ensure you will be granted a deferred examination.

Supplementary Examinations

These will only be offered to students in the Biomedical Science Course in the following circumstances:

- * when the student has achieved an overall score of 45-49 for end of semester mark for a given unit;
- * the student has no more than two 'fail' marks in a maximum of two units for a given semester;
- * the supplementary examinations/ assessment must be approved by Board of Examiners; and
- * a student may be granted no more than two supplementary assessments in respect of one course of study
- * Unless otherwise notified, supplementary examination will be held in the official examinations period, which is usually August for units offered during semester 1 and January for the semester 2 units.

When a student has completed a supplementary examination, the maximum mark achievable is a pass of 50.

Information on the Semester examinations and the deferred and supplementary examinations can be found on the examinations website (<http://www.monash.edu.au/exams/index.html>). This site will supply details of the examination timetables, venues, policies and result publication.

Re-enrolment

It is your responsibility to re-enrol within the re-enrolment period. You will receive an email from the university informing you of when and how you should do this. Re-enrolment is performed via the web and usually takes place from the end of October. You will need to make sure that you enrol in the correct core units and that you choose your electives. There is only one re-enrolment period. Thus, you are expected to choose your units for semester 1 **and** semester 2 for the next academic year.

You can change your enrolment within the enrolment period or within the first 2-4 weeks of semester. Heavy fines and penalties apply to students who fail to enrol during the designated periods and students run the risk of losing their place in the course.

Often students are expected to re-enrol prior to receiving their second semester marks. Make sure you reenrol assuming you are going to pass all units. If you receive a supplementary or deferred exam or fail a unit, you can change your enrolment during the next year.

Once you have reenrolment, you will need to enter your preferences for your classes in the Allocate+ system. See the relevant section on page 1.

Student Resources

Often students suffer unexpected circumstances, be these financial hardship, illness or personal problems. If you feel that you are having problems ***it is always better to seek help early***. Listed below are some of the many resources available at Monash, for other problems, or as a starting point, students may speak to staff in the student services area in the School of Biomedical Sciences.

Student Representatives

Student representatives from each year level of the course are elected at the beginning of each year. Student representatives serve on the respective year level management committee and provide valuable feedback from their peers (you) regarding teaching and learning issues for all core units in the course.

It is important that student representatives actually communicate the opinions of their fellow students and not simply their own personal opinion. In order to facilitate this, unit convenors will ensure that the student representatives will be able to address their fellow students during lecture or practical class times. Student representatives should bear in mind the constraints on the curriculum and take relatively short times out of these classes. There may occasionally be the need for the student representatives to call a separate meeting in order to canvas proper student feedback. In this case the student administrative officer will liaise with the student representatives to assist with organisational matters.

The Student Support Committee for Health Sciences BMS representative will be chosen/elected to speak to the committee about issues that involve Biomedical Science students.

The names of the student representatives will be posted on the BMS noticeboard, located in the Department of Anatomy foyer. You will also find information on this noticeboard, about scholarships, course information nights, and other important events. Please check the noticeboard regularly.

Advisory Sessions

Attend all advisory sessions that you can. You will often be informed about these via the email, post or website. Advisory sessions that are usually run each year include, a careers night and an Honours information night.

Counselling Service

For personal problems, students are encouraged to seek help from counsellors. This is a professional and confidential service, where individual counselling is offered for academic, personal and relationship issues. Group programs are also conducted in areas such as stress management, exam skills, relaxation techniques and communication skills. Appointments can be made to see the counsellors in the campus centre on 9905 3156.

Course Website

The official course web site (www.med.monash.edu.au/biomed) is a valuable resource for all students and is regularly updated. The web site incorporates a section on transition issues and contains a facility that allows students to form study groups and seek mentoring, either via on-line methods or traditional means. The Faculty strongly encourages students to make use of these opportunities, as they will help you cope with the transition from secondary school to university. They will also help you to become familiar with the university, staff and other students.

Disabilities

Students who have disabilities should contact the disability liaison office (DLO). This office will coordinate resources to help students in lectures, practicals and/or with their studies in general. You can contact the Disability Liaison unit on 9905 5704 (voice) and 9905 5391 (TTY).

Financial Aid

A financial advisor is available to assist any enrolled students with a variety of financial matters. This can range from student loans which are available for any study related purpose to information and advice regarding eligibility for Youth allowance. They can be contacted on 9905 3156.

International Students

The Faculty Language and Learning Service Officer is John Hamilton. He is available to international students for consultation. To speak to John please call 9905 4026 to make an appointment.

The International Student Services Unit of Monash International is responsible for providing specialist advice, assistance and services to meet the special needs of international students regarding: pre-arrival information, settling in and commencing studies, relevant government regulations and making cultural adjustments to enhance the living and studying experience in Australia. The Clayton campus office can be reached at 9905 1174, 9905 2990 or 9905 5009.

Language and Learning Service

Students who have problems with English or writing skills should seek help from the Language and Learning Service. The language and learning services offer programs free of charge to Monash students wishing to improve their academic English and approaches to study. For further information, contact 9905 3053.

Medical Problems

For medical problems students should consult a medical practitioner, either their own doctor or a doctor at the Campus medical centre. The Campus medical centre can assist you with a range of issues, including emergency care, travel and sports medicine and health advice. Consultations are available with female and male doctors and with the Campus Nurse. Medicare is bulk billed for Australian resident students, and Medibank Private/Worldcare for international students. Appointments can be made on 9905 3175.

MONSEACS

Start thinking about your career. What interests you? What skills do you wish to acquire during your studies, i.e. languages, marketing, business, IT. Use your electives to provide these skills. Speak to staff and other students about career directions. MONSEACS, located in the campus centre can also help with career advice. MONSEACS can be contacted on 9905 4170.

Prizes

Each year the Faculty awards \$200 to two students with the highest aggregate score from each level of the course.

Considering Research?

Thinking of research as a career? Try summer vacation scholarships to get a feel for research/honours or consider doing the Research in action units (BCH3990, DEV3990, MIC3990, MIS3990, PHA3990 or PHY3990). Summer scholarships are available from most Biomedical Science departments at Monash and at affiliated institutions. Further information is available on the website (www.med.monash.edu.au/sobs/teaching/summerscholarships.html).

The Research in action units allow you to pursue a research project in a chosen discipline in third year, provided you meet the academic criteria. See the university handbook for further details.

Important Contacts

Staff involved in Teaching

Staff members in the School of Biomedical Science, the Southern Clinical School and the Central and Eastern Clinical School teach the course. A staff member from one of these schools convenes each unit of the course. Most convenors, lecturers and tutors will give you their contact information at the beginning of their teaching sessions. If you do not have contact information and wish to contact a member of staff you should use the staff directory on the university website. Email is usually the best way of contacting staff members. A list of unit convenors and contact details is given below:

First Year Convenor: Dr Nancy Nichols

Course code	Unit name	Convenors	Phone
BMS1011	Biomedical Chemistry	Dr Jackie Wilce	9902 0121
BMS1021	Cells, Tissues and Organisms	A/Prof Jane Black	9902 9112
BMS1031	Medical Biophysics	Dr David Mills A/Prof Helena Parkington	9905 3692 9905 2505
BMS1042	Biomedical Sciences and Society	Prof Robert Burton	9903 0452
BMS1052	Human Neurobiology	Dr Nancy Nichols	9905 2516
BMS1062	Molecular Biology	Dr Mark Prescott	9905 3724
BME1130	Health and Human Behaviour	Dr Susan Burney	9903 2437

Second Year Convenor: Dr Alfons Lawen

Course code	Unit name	Convenors	Phone
BMS2011	Structure of the Human Body	Dr Monika Zimanyi	9905 2763
BMS2021	Biochemistry of Human Function	Dr Alfons Lawen	9905 3711
BMS2031	Body Systems	Dr Julia Choate	9905 2562
BMS2042	Human Genetics	Dr Heather Verkade	9905 4663
BMS2052	Microbes in Health and Disease	Dr Priscilla Johanesen	9902 9153
BMS2062	Introduction to Bioinformatics	A/Prof Martin Stone	9905 9537

Third Year Convenor: Prof Phillip Nagley

Course code	Unit name	Convenors	Phone
BMS3021	Molecular Medicine and Biotechnology	Dr Melanie Pritchard	9902 9221
BMS3042	Biomedical Basis of Disease II	Dr Richard Kitching	9594 5520
BME3032	Health Policy and Management	Ms Catherine Joyce	8575 2256

All staff members have been issued with Monash University email addresses. These email address take the format of firstname.lastname@faculty.monash.edu. For most staff you come in contact with the faculty will be med or sci.

Student Administration Staff

The student services office is situated in Building 13C, Room CG11. All enquiries regarding enrolment should be directed to this office. Staff members can be contact by phone on 9905 1212 or email: biomed@med.monash.edu.au.

Course Convenor:	Dr Yvonne Hodgson
Student Services Manager:	Dr Joanne Waring
Course Administration Officer:	Ms Natalie Seng
Student Services Officer:	Ms Leanne Sultana

Course Structure – Core Units and Electives

The Bachelor of Biomedical Science degree provides three main outcomes for its graduates.

- * a non-specialised general degree in biomedical sciences.
- * an in-depth specialised program.

Students will, by the selection of elective units throughout the course, decide which of these outcomes is to be achieved.

The course is designed as a series of interlinked and consecutive sequences of units aimed at permitting students to readily acquire fluency and proficiency in the concepts, language and fundamentals of the biomedical sciences. The development of such a flexible curriculum may be achieved as part of one or more orderly course sequences or knowledge streams. The distinctive feature of this educational approach is that students are allowed some flexibility in their choice of units so that they are able to construct a sequence of studies suitable to their own requirements. In this way, students choose the most appropriate studies for their own particular career aspirations.

The undergraduate course is normally taken in three years of full-time study. All units within the degree are valued at six credit points. Each semester, students would normally complete four six-point units. In first and second year, students would normally complete three cores and one elective unit in each semester. In third year, students would normally complete one core and three elective units. The core units are multidisciplinary and taught by several departments in combination. Units from other faculties can be taken as electives. These are fully described in this handbook. A maximum of six units (of 6 credit points) may be taken from outside the Faculty of Medicine, Nursing and Health Sciences.

Students will receive detailed unit information from convenors via individual unit manuals. These manuals contain detailed information on teaching staff, contact persons, timetables, textbooks, reading guides, supplementary lecture material, details and weighting of assessment methods and procedures including some specific assessment dates. Manuals are available at the commencement of each semester.

Core Units for the Bachelor of Biomedical Science

First year

Students will be required to study three core units and one elective unit in each semester of first year.

First semester :

BMS1011 Biomedical chemistry
BMS1021 Cells, tissues and organisms
BMS1031 Medical biophysics
Level 1 Elective unit

Second semester :

BMS1042 Biomedical sciences and society
BMS1052 Human neurobiology
BMS1062 Molecular biology
Level 1 Elective unit

Second year

Students will be required to study three core units and one elective unit in each semester of second year.

First semester:

BMS2011 Structure of the human body
BMS2021 Biochemistry in human function
BMS2031 Body systems
Level 2 Elective unit

Second semester:

BMS2042 Human genetics
BMS2052 Microbes in health and disease
BMS2062 Introduction to Bioinformatics
Level 2 Elective unit

Third year

Students will be required to study one core unit and three elective units, two of which must be in the general area of biomedical sciences, in each semester of third year.

First semester:

BMS3021 Molecular medicine and biotechnology
Level 3 Biomedical Elective unit*
Level 3 Biomedical Elective unit*
Level 3 Elective unit

Second semester:

BMS3042 Biomedical Basis of disease II
Level 3 Biomedical Elective unit*
Level 3 Biomedical Elective unit*
Level 3 Elective unit

* Notes: Students must select at least 24 credit points from level 3 units with the following prefixes: BCH, BME, BMS, BND, BNS, DEV, GEN, HUP, IMM, MIC, MIS, PHA or PHY.

Fourth year (Honours)

Students may choose to do a fourth (Honours) year of study. The structure of the Honours year is made up of course work (25%) and a research project (75%). Students must achieve a distinction average in four third year units, 2 of these units must be the third year core units. Students may choose to undertake their research component in any of the Schools associated with the Medical faculty.

Course Progression for Mid-year Entry

Semester 2, year 1

BMS1042 Biomedical Sciences and Society
 BMS1052 Human Neurobiology
 BIO1022 Biology
 Level 1 Elective

Semester 1, year 2

BMS1011 Biomedical Chemistry
 BMS1031 Biomedical Biophysics
 MOL2011 Molecular biology: genes and their expression
 Level 1 or 2 Elective

Semester 2, year 2

BMS2042 Human Genetics
 BMS2052 Microbes in Health and Disease
 BMS2062 Introduction to Bioinformatics
 Level 2 Elective

Semester 1, year 3

BMS2011 Structure of the Human Body
 BMS2021 Biochemistry of Human Function
 BMS2031 Body Systems
 Level 2 Elective

Semester 2, year 3

BMS3042 Biomedical Basis of disease II
 Level 3 Biomedical Elective unit*
 Level 3 Biomedical Elective unit*
 Level 3 Elective unit

Semester 1, year 4

BMS3021 Molecular medicine and biotechnology
 Level 3 Biomedical Elective unit*
 Level 3 Biomedical Elective unit*
 Level 3 Elective unit

* Notes: Students must select at least 24 credit points from level 3 units with the following prefixes: BCH, BME, BMS, BND, BNS, DEV, GEN, HUP, IMM, MIC, MIS, PHA or PHY.

Electives Units and Course requirements

Students are normally expected to undertake electives at the same year level as their current BMS enrolment, the following exception is allowed:

- * During the entire course a student can complete a maximum of 12 credit points (2 elective units) at one level lower than their core Bachelor of Biomedical Science unit enrolment (this assumes a standard enrolment).

Students are required to complete a total of ten elective units as part of the Bachelor of Biomedical Science.

Normally they would be taken as follows:

Year in Course	Level 1	Level 2	Level 3
1st Year	2		
2nd Year		2	
3rd Year			4 (BMS) + 2

N.B. Please note the starting number of the unit usually denotes the level for example BMS₁011 is a level 1 unit and BMS₂011 is a level 2 unit.

The above is the ideal situation, but some flexibility is allowed. The following are the minimum requirements set for graduation from the course and it is the **student's responsibility** to ensure that they have met the minimum requirements.

Alternatively:

Year in Course	Level 1	Level 2	Level 3
1 st Year	2		
2 nd Year	2		
3 rd Year			4 (BMS) + 2

If a student takes level 1 elective units in Year 1 and 2, then they must do six elective units at level 3.

Or

Year in Course	Level 1	Level 2	Level 3
1 st Year	2		
2 nd Year		2	
3 rd Year		2	4 (BMS)

If a student takes four level 2 elective units in year 2 and 3 then they must do four elective units at level 3.

Or

Year in Course	Level 1	Level 2	Level 3
1 st Year	2		
2 nd Year	1	1	
3 rd Year		1	4 (BMS) + 1

If a student takes one level 2 elective unit in year 2, then they can complete one level 2 elective unit in year 3 and the five remaining elective units must be done at level 3.

Advice on levels of electives choices is available from the student services manager.

Possible Elective Units

This list of elective subjects is not a comprehensive list. It is a list produced from suggested subjects and those that students have already taken. Additional units are available. It is not possible to list them all. A complete list of units available and prerequisites are in the University handbook, which can be found on the web at www.monash.edu.au/pubs/handbooks/undergrad.

Please note that students are responsible for ensuring that they meet prerequisite requirements. A list of prohibited subject can be found on page 14 and on the biomedical website at www.med.monash.edu/biomed.

If you decide to take unit from another faculty you must abide by their rules and regulations.

A unit being on this list does not mean that it will fit in your timetable. You must check your timetable for each semester.

Semester 1 – year 1

Faculty Electives

BME1130 Health and human behaviour

Chemistry

CHM1011 Chemistry

Mathematics

MTH1010 Functions and their applications

MTH1030 Techniques for modelling

Nutrition and Dietetics

BND1010 Human nutrition: an introduction to nutrients

Physics

PHS1011 Physics

Psychology

PSY1011 Psychology 1A

These are examples of units that students have taken as electives in the past:

AFC1021/1022 Accounting Principles*

AFC1100 Introduction to finance*

ASP1010 Earth to cosmos: introductory astronomy

BTC1100 Business law*

CHI1110 Beginning Chinese, part 1

CES1301 Computer programming

ECC1000 Principles of macroeconomics*

ECC1100 Principles of microeconomics*

ECC1510	Economic history: world economic leadership
ENH1010	Reading literature I
ETC1000	Business and economic statistics*
ETC1010	Data Modelling and computing*
FRN1110	French studies year 1 level 1A
HSY1010	Medieval Europe
IMS1401	The internet and multimedia
INM1210	Intermediate Indonesian, part 1
INT1010	Contemporary worlds 1
JPL1110	Japanese 1A: part 1
MGG1010	Managing people and organisations*
MGC1020	Organisations: contexts and strategies*
MKC1200	Principles of marketing*
PHL1010	Introduction to philosophy A
SPN1010	Introductory Spanish 1A
STA1010	Statistical Methods for Science

*additional studies in this discipline area may be undertaken if prerequisites are met. Please check the handbook.

Semester 1 – year 2

Anatomy and Developmental biology

DEV2011 Early human development from cells to tissues

Behavioural Neuroscience

BNS2011 Brain structure and function

Biochemistry

BCH2011 The molecules of life

Biological Sciences

BIO2011 Ecology

BIO2031 Biodiversity and bioresources

Chemistry

CHN2911 Molecular design and reactivity

CHM2951 Environmental chemistry – water

Immunology

IMM2011 Function of the immune system

Mathematics

MTH2010 Multivariable calculus

MTH2021 Linear algebra with applications

MTH2051 Introduction to computational mathematics

Microbiology

MIC2011 Microbiology

Physics

PHS2011 Physics: quantum concepts and technologies

Psychology

PSY2031 Developmental and biological psychology

PSY2051 Research design and analysis

These are examples of units that students have taken as electives in the past:

ARY2970 The archaeology and history of ancient Egypt, 3000-1650 BCE

ENH2980 Introduction to fiction writing

JPL2990 Language study in Japan 6 points

MUS2070 Orchestral and choral performance and studies

PHL2650	Philosophy of mind
SCY2031	Sexuality, gender and social relations

Semester 1 – year 3

Anatomy and Developmental biology

DEV3011	Fundamentals of developmental processes
HUP3011	Human pathology 1: understanding disease processes

Behavioural Neuroscience

BNS3031	Brain chemistry and behaviour
BNS3041	Brain development and memory

Biochemistry

BCH3021	Cellular organisation: organelle structure and function in health and disease
BCH3031	Advanced molecular biology: modern concepts and applications

Biological Sciences

GEN3030	Genetics of development
GEN3051	Medical genetics and forensic biology

Chemistry

CHM3180	Material chemistry: biomaterials, macromolecules and smart molecules
CHM3911	Spectroscopy, synchrotron and structure
CHM3941	Synthesis 1: chemistry of bioactive compounds

Immunology

IMM3031	Molecular and cellular immunology
IMM3051	Principles of applied immunopathology

Microbiology

MIC3011	Molecular microbiology
MIC3041	Medical microbiology and biotechnology

Pharmacology

PHA3011	Principles of drug action
PHA3021	Drugs in health and disease

Physiology

PHY3111	Sensation and Movement
PHY3171	Clinical and experimental cardiovascular physiology
PHY3181	Sex, reproduction and stress

These are examples of units that students have taken as electives in the past:

BTC3150	Taxation law
HSY3050	Fears and fantasies: deviance in history
MGC3120	International management

Semester 2 – year 1

Faculty Electives

BME1130	Health and human behaviour
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Behavioural Neuroscience

BNS1072	Foundations of behavioural neuroscience
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Biological Sciences

BIO1042	Environmental biology
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Chemistry

CHM1022	Chemistry
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Mathematics

MTH1020	Analysis of change
MTH1112	Numbers, logic and graphs

Nutrition and Dietetics

BND1022	Food chemistry
BND1032	Social nutrition

Physics

PHS1022	Physics
PHS1042	Physics for bio and environmental sciences

Psychology

PSY1022	Psychology 1B
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These are examples of units that students have taken as electives in the past:

AFC1100/2100	Introduction to finance*
ASP1022	Life and the universe
BHS1340	Behavioural studies B
BTC1100	Business law*
BUS1010	Introductory computing for business applications
CHI1120	Beginning Chinese, part 2
CSE1303	Computer science
ECC1000	Principles of macroeconomics*
ECC1100	Principles of microeconomics*
ETC1000	Business and economic statistics*
ETC1010	Data Modelling and computing*
FRN1120	French studies year 1 level 1B
GRN1425	German studies, advanced 2, part 2
HSY1020	Renaissance Europe
INT1020	Contemporary worlds 2
JPL1120	Japanese 1A: part 2
MGG1010	Managing people and organisations*
MGC1020	Organisations: contexts and strategies*
MKC1200	Principles of marketing*
PHL1020	Introduction to philosophy B
PLT1040	Introduction to international relations
SPN1020	Introductory Spanish 1B
STA1010	Statistical Methods for Science

*additional studies in this discipline area may be undertaken if prerequisites are met. Please check the handbook.

Semester 2 – year 2

Anatomy and Developmental biology

DEV2022	Principles of organ and body design
CEL2012	Cell biology 1

Behavioural Neuroscience

BNS2022	Behavioural neuroscience of movement and sensation
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Biochemistry

MOL2022	Molecular biology: gene technology and its application
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Biological Sciences

BIO2022	Evolution and systematics
BIO2042	Conservation biology
CEL2012	Cell biology 1

Chemistry

CHM2922	Instrumental and forensic chemistry
CHM2942	Chemistry of life
CHM2962	Food chemistry

Mathematics

MTH2010	Multivariable calculus
MTH2032	Differential equations with modelling
MTH2122	Algebra and number theory I
MTH2222	Mathematics and uncertainty

Microbiology

MOL2022	Molecular biology: gene technology and its application
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Pharmacology

PHA2022	Drugs and society
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Physics

PHS2022	Physics for communication and measurement
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Psychology

PSY2042	Cognitive and social psychology
PSY2051	Research design and analysis
PSY2112	Organisational psychology

These are examples of units that students have taken as electives in the past:

ARY2990	The archaeology and history of ancient Egypt, 1650-525 BCE
BTC2300	Health law
CHI2320	Advanced intermediate Chinese, part 2
ENH2981	Advanced fiction writing
HSY2950	Europe: enlightenment and revolution
MUS2080	Orchestral and choral performance and studies
SPN2130	Culture and civilisation of the Hispanic world

Semester 2 – year 3**Anatomy and Developmental biology**

DEV3022	Developmental pathways to health and disease
DEV3032	Stem cells and regeneration
DEV3990	Action in developmental biology research project
HUP3022	Human pathology 2: pathology of human diseases

Behavioural Neuroscience

BNS3052	Drugs and altered awareness
BNS3062	Imaging and brain disorders

Biochemistry

BCH3042	Cell signal transduction: role in cancer and human disease
BCH3052	Advanced protein biology: from sequence to structure and disease
BCH3990	Action in biochemistry research project

Biological Sciences

GEN3040	Genomics and molecular genetics
GEN3062	Conservation of ecological genetics

Chemistry

CHM3922	Synthesis 2: understanding chemical reactions
CHM3932	Medicinal chemistry
CHM3952	Analytical and forensic chemistry

Immunology

- IMM3042 Clinical immunopathology
IMM3062 Clinical and research laboratory immunology

Microbiology

- MIC3022 Molecular virology and viral pathogenesis
MIC3032 Pathogenesis of bacterial infectious diseases
MIC3990 Action in microbiology research project

Monash Immunology and Stem Cell Laboratory

- MIS3990 Action in stem cells research project

Pharmacology

- PHA3032 Neuro and endocrine pharmacology
PHA3042 Modern drug development
PHA3052 Poisons and toxins
PHA3990 Action in pharmacology research project

Physiology

- PHY3012 Integrative neuroscience
PHY3072 Muscle and exercise
PHY3082 Developmental physiology
PHY3990 Action in physiology research project

These are examples of units that students have taken as electives in the past:

- BUS3200 Chinese language information technology
CLS3420 Literature and phenomenology: de Sade, Dostoevsky, Nietzsche, Tolstoy
ENH3150 Australia urban fictions
FRN3703 Rap culture: an ethnographic analysis of contemporary France
PHL3590 Mind and meaning
RLT3480 The religious quest: eastern faith and illumination
SLA3150 Slavic contrastive studies
STA3032 Advanced data analysis

Prohibited Electives

Semester 1

Faculty / Unit	Prohibited Unit
Biochemistry and Molecular Biology	
MOL2011 – Molecular biology: genes and their expression	BMS1062 – Molecular biology
Biological Sciences	
BIO1011 – Biology	BMS1021 – Cells, tissues and organisms
GEN2041 – Foundations of genetics - hereditary and you	BMS2042 – Human genetics
Physiology	
PHY2011 – Neuroscience of sensation, brain and movement	BMS1052 – Human Neurobiology
PHY2021 – Body systems physiology	BMS2031 – Body Systems
Nutrition and Dietetics	
BND2011 – Nutritional Physiology	BMS2031 – Body Systems
BND2021 – Nutritional Biochemistry	BMS2021 – Biochemistry and Human Function

Semester 2

Faculty / Unit	Prohibited Unit
Biochemistry and Molecular Biology BCH2022 – Energy metabolism of cells and tissues	BMS2021 – Biochemistry of Human Function
Biological Sciences BIO1022 – Biology II GEN2052 – Human and population genetics I	BMS1021 – Cells, tissues and organisms BMS2042 – Human genetics
Microbiology MIC2022 – Microbiology	BMS2052 – Microbes in health and disease
Physiology PHY2032 – Physiology of human health	BMS2031 – Body Systems

NB: Please note that this list of prohibited electives is subject to change.

Last Words

This handbook has been designed to help all students in the Biomedical Science course. We welcome any suggestions about how it may be improved to meet your needs. Please direct your suggestions to the Student Services Manager, Dr Joanne Waring.

Further Information

Student Administration Officer

Building 13C

School of Biomedical Sciences

MONASH UNIVERSITY VIC 3800

Telephone: 9905 1212

Biomedical Science Web Site:

www.med.monash.edu.au/biomed

Biomedical Science Handbook entry:

www.monash.edu.au/pubs/handbooks/undergrad