

## Course Module Descriptors for Degree of Bachelor of Science in Pharmacology

The following descriptors have been taken from the relevant Catalogues of Courses for the academic years stated, during which Krzysztof Kampinowski was a registered student of the University of Aberdeen studying towards the Degree of Bachelor of Science in Pharmacology. The Catalogue of Courses archive can be accessed on the University of Aberdeen website at the following URL: <https://www.abdn.ac.uk/registry/courses/>.

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The following descriptions are correct for the academic year 2013/14:

BI1005	Organismal Biology	Credit Points: 15
<b>Course Co-ordinator(s):</b> Dr J. Baird & Dr J. McDonald		
<b>Course Overview:</b> Organismal biology explores the challenges of being alive. The course content comprises modules pertaining to the comparative study of life functions (reproduction, growth and development, nutrition, gas exchange, circulation, excretion, movement and communication) in a diverse range of plants, animals and microbes. The emphasis is on describing the similarities and differences amongst plants, animals and microbes pertaining to the integration and regulation of life functions that allow survival of individuals and species in a range of environments.		
<b>Course Structure:</b> Twelve-week course in first half-session. 3 one-hour lectures per week and 1 three-hour laboratory practical every second week (but only five practicals in total). Total contact hours: 36 lectures and five practicals; in total, 51 hours.		
<b>Assessment &amp; Feedback:</b> <b>Summative Assessment:</b> 1st Attempt: 1 two-hour MCQ exam (60%) and in-course assessment (40%). To pass this course, a pass must be achieved both the theory exam and the in-course assessment. Resit: 1 two-hour MCQ exam in the same format as the main exam.  <b>Formative Assessment:</b> Four compulsory online tests (one test every three weeks) will help students assess how well they are learning the course material. Student performance will be monitored.  <b>Feedback:</b> Students will receive regular written feedback on each lab report before the start of the next practical class. Students who are identified as having difficulty in correctly completing the formative online tests will be invited to meet members of the course team to identify difficulties and discuss solutions.		

CM1020	Chemistry for the Life Sciences 1	Credit Points: 15
<b>Course Co-ordinator(s):</b> Dr W. Harrison		
<b>Course Overview:</b> This course surveys the foundations of chemistry as applied to the life sciences. Topics covered: <ul style="list-style-type: none"><li>• The basic concepts and language of chemistry and quantitative chemical calculations.</li><li>• Organic chemistry, functional groups and stereochemistry.</li><li>• Acids and bases, pH and buffers.</li><li>• The basic principles of chemical energetics, the properties of gases, chemical kinetics.</li></ul>		
<b>Course Structure:</b> 2 one-hour lectures (times TBA) and 1 one-hour class workshop (time TBA) per week. Five fortnightly three-hour laboratory classes (times TBA).		



**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 two-hour written examination (50%), continuous assessment (on-line tests) (30%) and lab work (20%).

Resit: 1 two-hour written examination (100%).

**Feedback:**

Marks for lab experiment follow-up tests and MyAberdeen assignments available as soon as possible after the assessments: informal discussion with students in lab sessions. All of the course team have "open door" policies for meeting students.

**CM1512****Chemistry for the Life  
Sciences 2****Credit Points: 15****Course Co-ordinator(s):**

Dr W. Harrison

**Course Overview:**

This course focuses on key aspects of chemistry applicable to the life sciences. Topics covered:

- "What do we have?": chemical analysis applied to the life sciences.
- Organic reaction mechanisms.
- Biomolecules: amino acids and proteins, sugars and carbohydrates.
- Energy, entropy and equilibrium.

**Course Structure:**

2 one-hour lectures (times TBA) and 1 one-hour class workshop (time TBA) per week. Five fortnightly three-hour laboratory classes (times TBA).

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 two-hour written examination (50%), continuous assessment (30%) and lab work (20%).

Resit: 1 two-hour written examination (100%).

**Feedback:**

Marks for lab experiment follow-up tests and MyAberdeen assignments available as soon as possible after the assessments. Informal discussion with students in lab sessions. All of the course team have "open door" policies for meeting students.

**PS1009****Introductory Psychology I:  
Concepts and Theory****Credit Points: 15****Course Co-ordinator(s):**

Dr A. Hunt

**Course Overview:**

Topics will include: Biological psychology and developmental psychology.

**Course Structure:**

The course will comprise 3 one-hour lectures/week and 4 one and a half-hour workshops per semester.



**Assessment & Feedback:****Summative Assessment:**

1st Attempt: Multiple-choice examination (75%). Continuous assessment in workshops (25%).

Resit: Multiple-choice examination (75%). Continuous assessments (25%).

**Formative Assessment:**

Peer feedback will be provided for workshops. In-class quizzes will be provided.

**PS1509****Introductory Psychology II:  
Concepts and Theory****Credit Points: 15****Course Co-ordinator(s):**

Dr A. Hunt

**Course Overview:**

Topics will include: Cognitive psychology, social psychology and perception.

**Course Structure:**

The course will comprise 3 one-hour lectures/week and 4 one and a half-hour workshops per semester.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: Multiple-choice examination (75%). Continuous assessment in workshops (25%).

Resit: Multiple-choice examination (75%). Continuous assessments (25%).

**Formative Assessment:**

Peer feedback will be provided for workshops. In-class quizzes will be provided.

**SM1001****Introduction to Medical  
Sciences****Credit Points: 15****Course Co-ordinator(s):**

Dr G.T.A. McEwan & Dr J. Barrow

**Course Overview:**

This course will introduce core disciplines associated with the School of Medical Sciences. Through exploration of basic human body function in health and disease, the course will engage students with the fundamental concepts of anatomy, physiology and neuroscience. This will lay the foundation for understanding the general principles of pharmacology, developmental biology and the biomolecular sciences. Discipline specific skills and techniques will be utilised to enhance understanding and to develop broader medical science skills and methods.

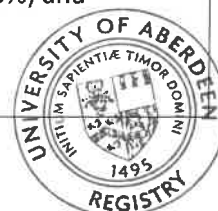
**Course Structure:**

3 one hour lectures per week and one 3 hour practical/problem-solving class per fortnight.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: Continuous assessment (100%). 1 two-hour in course MCQ exam (50%) and completed laboratory reports (50%).

Resit: 1 two-hour MCQ exam (70%) and previous continuous assessment (30%).



**Formative Assessment:**

- PRS-based MCQ in lectures/practicals
- Problem-solving sessions

**Feedback:**

- Practical reports will be marked with written comments.
- Students given general feedback on performance during PRS sessions.
- General feedback provided following in-course MCQ assessments
- General feedback following problem-solving sessions

**SM1501****The Cell****Credit Points: 15****Course Co-ordinator(s):**

Dr John Barrow &amp; Dr Allison Carrington

**Course Overview:**

The course explores cells as the basic unit of life. All organisms are composed of cells whether they exist as single-celled microbes, or multi-cellular organisms, as in plants and animals. The course starts by discussing how cells evolved, illustrating the diversity of cells types while also showing how cells are all "variations on a theme". As the course progresses the structure and function of the cell is explored and the fundamental molecular concepts of life are introduced. Later in the course the focus will be on how cells are able to come together to form multi-cellular organisms such as animals and plants. This multi-cellularity requires cells to stick together and to communicate with each other. The course also explores how cells grow and divide and how some cells can differentiate to allow specialised functions. The last few lectures illustrate some of the exciting cell biology studies being carried out in the University of Aberdeen, ranging from fungal and parasite biology through to research into bone disease and cancer.

**Course Structure:**

3 one hour lectures per week and 1 three hour practical class per fortnight.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 two-hour MCQ examination (60%) and in-course assessment (40%). Continuous assessment comprises: 5 laboratory reports and 5 MCQ tests.

Resit: 1 two-hour MCQ examination (60%) and in-course assessment (40%). This may contain material from both the practical and lecture components of the course.

**Formative Assessment:**

PRS-based revision sessions allow students to practice for MCQ tests and receive feedback on their performance.

**Feedback:**

Students are given general feedback on performance during PRS revision sessions.  
Students receive on-line feedback on completion of the MCQ tests and quizzes.



**SR1002**

**Introduction to the Science of  
Sport, Exercise and Health**

**Credit Points: 15**

**Course Co-ordinator(s):**

Dr M. Scholz

**Course Overview:**

This course will introduce physiology, anatomy and pharmacology and their application to sport and exercise science. It will include an outline of basic physiological functions of the body and how these can adapt to changing demand such as during exercise. An introduction to anatomy and the human musculoskeletal system will be linked to aspects of human movement. Understanding of basic pharmacology will focus on the use of drugs in sport and also in common disease states. Energy metabolism and human nutrition will be described with an emphasis on their importance to human physiology and sport and exercise science. Basic physiological techniques will be introduced and will be related to effects and functions of exercise.

**Course Structure:**

3 one-hour lectures per week and 1 practical every 2 weeks.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: Continuous assessment (100%). MCQ assessments during course.

Resit: 1 two-hour MCQ exam (70%) and previous continuous assessment (30%).

Formative Assessment:

PRS questions during lectures and practice questions on WebCT.

Feedback:

PRS MCQ assessment answers discussed at the end of assessment session.

Immediate feedback on practice questions available on WebCT.



The following descriptions are correct for the academic year 2014/15:

BI20B2	Physiology of Human Cells	Credit Points: 15
<b>Course Co-ordinator(s):</b> Professor Gordon McEwan		
<b>Course Overview:</b> <ul style="list-style-type: none"><li>• physiology is the science of understanding life. It allows you to explore and understand why your body does what it does and how it does it;</li><li>• this introductory physiology course explores living processes at the level of cells and molecules;</li><li>• the course lays down many of the fundamental concepts of physiology required to appreciate advanced study of many of the medical sciences disciplines;</li><li>• you will gain practical experience and understanding of electrophysiological techniques required for the study of electrically excitable tissues like nerves and muscle;</li><li>• you will also gain valuable experience in the key skill of writing formal scientific reports</li></ul>		
<b>Course Description:</b> <p>This course introduces human physiology - the understanding of body function. The central concept, essential to physiology, is homeostasis - the maintenance of a relatively constant internal environment in a constantly changing external environment. This course (along with its partner BI25B2) will consider how this is achieved at cell and whole body level. The focus in this course will be on the roles of the nervous and endocrine control systems. Specifically, it deals with: the physiology of the cell with special reference to nerve and muscle; cell-cell signalling; neuro-endocrine integration and some aspects of endocrinology; membrane potentials and action potentials in nerve cells; reflexes; central nervous system control of movement; the physiology and pharmacology of the autonomic nervous system; transduction of sensory information by receptors and processing of sensory information by the CNS; the composition and function of blood including its role in immunity.</p>		
<b>Assessment &amp; Feedback:</b>		
<b>Summative Assessment:</b> <p>1st Attempt: 1 two-hour MCQ examination (70%) and in-course assessment (30%). Continuous assessment comprises: 2 laboratory reports, mid-term MCQ exam.</p> <p>Resit: 1 two-hour MCQ examination (70%) and previous continuous assessment (30%).</p>		
<b>Formative Assessment:</b> <p>PRS-based revision session allows students to practice for MCQ tests and receive feedback on their performance.</p>		
<b>Feedback:</b> <p>Practical reports will be marked with written comments. Students will be given general feedback on performance during timetabled exam information sessions. PRS MCQ assessment answers discussed during timetabled exam information sessions.</p>		



**Course Co-ordinator(s):**

Dr Alasdair MacKenzie

**Course Overview:**

- this course will provide a comprehensive understanding of how genetic information is stored, how it is accessed by the cell to form functional proteins and how the release of this information is controlled to produce a healthy human child;
- understanding this process is essential to understanding the basis of human disease and the course will examine how genetic differences affect disease susceptibility;
- this popular, comprehensive and cutting edge course will equip students with the essential knowledge, skills and confidence in molecular biology required to progress on all courses undertaken in the School of Medical Sciences

**Course Description:**

The course is divided into 4 main modules as follows; 1. Nucleic Acids: this module will provide an overview of nucleic acid biochemistry with emphasis on the dynamic structure of DNA and the way in which it is replicated and packaged into chromosomes. The basic principles of modern recombinant DNA technologies will also be introduced. 2. Gene regulation: one of the most important questions within modern biology centres on how one- dimensional information held within the DNA is turned into healthy living 3-dimensional organisms that are able to interact with their environments. This module will describe how this information is decoded by transcription and translation to form proteins and how organisms control these processes to ensure that the correct proteins are produced in the correct cells at the correct times and in the correct amounts. 3. Peptides and proteins: this module will provide a comprehensive introduction to protein biochemistry, building on the basic chemistry of amino acids and peptides. The properties of proteins will be described, using a number of specific examples. The final lectures in the module will consider the methods used to study proteins. These provide the information that underlies our current understanding of protein structure and function. 4. Genetic disease: this module will explain how genomes can be compromised by mutation and chromosomal rearrangements leading to disorders such as Downs syndrome, cystic fibrosis, fragile-X syndrome and cancer.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 4 x 50 minute on-line QMP based assessments each worth 5% of mark (20%), 4 x 3 hour practical each worth 5% of mark (20%). 1 x 2 hour final exam in essay format (60%).

Resit: 1 x 2 hour final exam in essay format (60%) plus previous continuous assessment (40%).

**Formative Assessment:**

4 x 50 minute on-line QMP based assessments.

**Feedback:**

Students are given feedback on marked practical reports. Practical marks and QMP test marks displayed on WebCT within a week. Answers to on-line tests provided after the test.





**BI25B2**

**Physiology of Human Organ  
Systems**

**Credit Points: 15**

**Course Co-ordinator(s):**

Dr Alison Jack & Dr Steve Tucker

**Course Overview:**

- the digestive, cardiovascular, respiratory, renal and reproductive systems are covered using a variety of innovative teaching methods;
- you will participate in practical classes where students act as subjects and investigators. These will reinforce lecture material, develop scientific acumen and build team working skills;
- focussed and interactive problem solving sessions apply knowledge to clinical scenarios, and begin developing fundamental skills critically required in the final years of the degree;
- informal teaching sessions allow one-to-one staff-student interaction and encourage discussion in a non-threatening environment;
- a low stakes in-course mock exam is included to prepare you for the high stakes degree exam

**Course Description:**

This course will explore the following questions: How do the major body organs and systems work both alone and in communication with one another? How do we adapt to changing circumstances, control breathing as required, adjust to our nutritional needs, spawn new generations? The course will then go on to investigate the physiology behind the way in which the heart supplies even the furthest extremities with nutrition and oxygen and how gases are extracted from the air we breathe by our lungs. The kidney (fluid balance), the digestive system (nutrition) and the reproductive systems will also be explained in detail. The course provides an overview of what goes on inside your body, and what happens when it goes wrong.

**Assessment & Feedback:**

**Summative Assessment:**

1st Attempt: 1 two-hour MCQ examination (70%) and in-course assessment (30%). Continuous assessment comprises: 3 laboratory reports and the mid-term examination.

Resit: 1 two-hour MCQ examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

Problem-solving sessions follow each block of lecture material and allow interaction between students and teaching staff and application of knowledge covered in the lectures.

**Feedback:**

Practical reports will be marked with written comments and constructive feedback. General feedback provided following mid-term assessment. General feedback throughout problem-solving sessions, where staff will circulate and discuss lecture material with students.



<b>BI25M5</b>	<b>Microbes, Infection and Immunity</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Dr Frank Ward		
<b>Course Overview:</b> <ul style="list-style-type: none"> <li>• if you were to count the number of bacteria in your gut, you might be surprised to find that you have 10 times more of them than you have cells in your body;</li> <li>• from the moment we are born, we become infested with microbial life that has an enormous impact on our lives;</li> <li>• in this course we explore the positive and negative aspects of our relationship with microbes, and how our immune system helps to maintain a fragile peace with our closest neighbours</li> </ul>		
<b>Course Description:</b> Bacteria, fungi, algae, protozoa and viruses occupy all niches of this planet, from the deepest oceans to the human body. Their success in such a wide variety of environments is dependent on their diversity and adaptability. This course is an introduction to the biology and ecology of micro-organisms, and an introduction to the immune system and its role in protecting against microbial disease. The course stresses the importance of man's relationships with micro-organisms, from disease to biotechnology and in particular, describes how we build immunity by meeting all of the challenges that arise in combating infection.		
<b>Assessment &amp; Feedback:</b> Summative Assessment: 1st Attempt: 1 two-hour extended matching question (EMQ) examination (70%) and in-course assessment (30%). Continuous assessment comprises: 4 written practical reports (15% in total), 4 homework assignments (15% in total). Resit: 1 two-hour EMQ examination (70%) and previous continuous assessment (30%).  Formative Assessment: PRS questions during lectures and practice questions on WebCT. EMQ Mock Exam  Feedback: Practical reports will be marked with written comments. Students will be given general feedback on performance during timetabled exam information sessions. PRS MCQ assessment answers discussed during lectures. Immediate feedback on practice questions available on WebCT.		

<b>PS1511</b>	<b>Introductory Psychology II: Methods and Applications</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Dr David Pearson		
<b>Course Overview:</b> PS1511 builds on PS1011. You will learn more about research methods in Psychology through lectures, practicals, and taking part in experiment-demonstrations. You will also learn how to set up and conduct a Psychology experiment yourself. Part of the lectures will focus on statistics, to equip you with the skills to analyze and interpret your own data, culminating in a written research report, in which your critical thinking skills will be encouraged. You will also learn about the role of		



ethics in research. This course will enable you to spot the difference between 'pop-science' and genuine science.

**Course Description:**

The course will cover core experimental methods and research design in psychology. These experimental methods will be linked to a range of data handling techniques and interpretation skills.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: Continuous assessment (70%) and MCQ exam (30%). Coursework will consist of practical reports, assessed oral presentations, SONA experimental participation credits, and short assignments completed in class).

Resit: Resubmitted coursework assignments (50%) and MCQ exam (50%).

Feedback:

Students will receive written feedback on continuous assessment.

**PS2017**

**Advanced Psychology A -  
Concepts and Theory**

**Credit Points: 15**

**Course Co-ordinator(s):**

Dr Paul Bishop

**Course Overview:**

The course builds on the material covered in the 1st-year courses expanding on psychology's concepts and theories. The course covers three core areas of psychology Neuroscience, Organisational and Cognitive Psychology. The lectures on Organisational Psychology cover organizational culture, occupational stress, motivation, leadership and team work. The Cognitive psychology strand is split into two halves. The first half is focused on Memory, and the second half is focused on the Psychology of Language. The third strand within this course is focused on Neuroscience, and will cover topics such as localisation of brain function and the neuroscience of emotion.

**Course Description:**

Topics will include: Cognition and language, organisational psychology and behavioural neuroscience.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: 1 two-hour written examination (60%); continuous assessment (30%) - essay no more than 2,000 words, workshop (10%).

Resit: 1 two-hour written examination (60%). Continuous assessment marks will remain unchanged.

Formative Assessment:

There are formative assessments associated with the lecture programme.

Feedback:

Students will receive written feedback during continuous assessment.



<b>PS2517</b>	<b>Advanced Psychology B – Concepts and Theory</b>	<b>Credit Points: 15</b>
<p><b>Course Co-ordinator(s):</b> Dr Paul Bishop</p> <p><b>Course Overview:</b> This course builds on the material that is covered in the 1st-year courses expanding on psychology's concepts and theories. The course covers four core areas of psychology, Developmental, Clinical, Social and Perception. The Lectures on Developmental Psychology covers both cognitive and emotional development across the lifespan. The clinical psychology section of the course will give you grounding in the key ideas within current Clinical Psychology practice and is taught by a practicing Clinical Psychology. Social Psychology will cover topics such as leadership and group processes. The Perception part of the course will examine the visual and intentional systems.</p> <p><b>Course Description:</b> Topics will include: Perception, developmental psychology, social psychology and clinical psychology.</p> <p><b>Assessment &amp; Feedback:</b> Summative Assessment: 1st Attempt: 1 two-hour examination (60%); continuous assessment (30%) - essay (no more than 2,000 words), workshop (10%). Resit: 1 two-hour examination (60%). Continuous assessment marks will remain unchanged.</p> <p>Formative Assessment: There are formative assessments associated with the lecture programme.</p> <p>Feedback: Students will receive written feedback during continuous assessment.</p>		

<b>SM2001</b>	<b>Foundation Skills for Medical Sciences</b>	<b>Credit Points: 15</b>
<p><b>Course Co-ordinator(s):</b> Dr Derryck Shewan</p> <p><b>Course Overview:</b></p> <ul style="list-style-type: none"> <li>• this course is the cornerstone to all the advanced science courses in later years and provides you with key skills for success in science;</li> <li>• feedback from employers drove the course design to give specific and focused science skills to enhance your employability;</li> <li>• analytical, professional, data interpretation, experimental design and problem solving skills are core elements that are essential for any graduate career portfolio;</li> <li>• this course and the additional specifically developed online resources have been commended by employers and students alike.</li> </ul> <p><b>Course Description:</b> This course focuses on enhancing core research skills for the study of the medical sciences. It is a requirement for all students with degree intentions in the School of Medical Sciences. The course develops the essential skills that are needed to undertake a research project. Its aim is to</p>		



active student-driven approach to learning based on curiosity and exploration of knowledge as opposed to passive acquisition. Students work in groups of around 6 and will research a particular topic related to the general theme of 'Health and Disease'. Students learn to critically analyse published work, evaluate sources of information, and basic presentation skills.

**Assessment & Feedback:**

**Summative Assessment:**

1st Attempt: There are 5 assessments and a practical project. Each assessment has to be passed, students retake any failed assessment until they pass, although limited to a CAS 9 for any attempt other than their first.

**Formative Assessment:**

PRS-based questions in the lectures. Workshop material allows them to practise the skills with lots of staff for assistance and feedback. Practice questions give full feedback on the answers.

**Feedback:**

Students given feedback in lectures, workshops and practice sessions on the web. Further personal tuition is provided if required, by teaching staff or the Student Learning Service.



The following descriptions are correct for the academic year 2015/16:

BI2510	Principles of Animal Physiology	Credit Points: 15
<b>Course Co-ordinator(s):</b> Mrs Cath Dennis		
<b>Course Overview:</b>		
Lectures by animal scientists based in SBS provide students with an understanding of how physiological systems enable animals to interact with their environment.		
By exploring functional properties of living systems at different levels (i.e., cell, tissue, organ, organism) students gain a holistic understanding of animal physiology.		
Practical sessions focus on biological chemistry, circulation, muscle, insect movement and osmolarity, and allow students to develop relevant lab skills.		
Through the study of vertebrate and invertebrate examples, students gain an appreciation of processes fundamental to all animals, and of differences across groups.		
<b>Course Description:</b>		
The content reflects currently important topics in animal function and physiology. It features units related to both invertebrate and vertebrate physiological adaptations to the environment. The content builds on, and integrates in a critical manner, knowledge about animals from BI 1005 (Organismal Biology) and BI 1509 (Ecology and Environmental Science). Topics typically include areas such as Sensory Systems, Excretion, Respiration & Circulation, Biological chemistry, Thermoregulation and Osmoregulation.		
<b>Assessment &amp; Feedback:</b>		
Summative Assessment:		
1st Attempt: 1 two-hour written exam (60%); continuous assessment (40%).		
Resit: Similar to 1st attempt, with continuous assessment mark(s) and /or exam mark carried forward with an opportunity to resit either or both, depending on what was failed in the first attempt.		
Formative Assessment:		
One formative on-line test will help students assess how well they are learning the course material. Student participation in these tests will be monitored and contribute to retention of the class certificate.		
Feedback:		
Students will receive regular written feedback on each practical report before the start of the next practical class.		



**Course Co-ordinator(s):**

Dr John Barrow

**Course Overview:**

- understanding the fundamental workings of cells is important to a wide range of scientific disciplines;
- this course integrates the key metabolic and biochemical processes that underpin human, animal and plant life in relation to health and disease;
- this core knowledge prepares you for more advanced study in all areas of life sciences and has wide ranging applications;
- you will also participate in an award winning practical series focussed on drug discovery which will build essential employability skills in experimental design, data analysis and practical laboratory skills

**Course Description:**

"Now, a living organism is nothing but a wonderful machine endowed with the most marvellous properties and set going by means of the most complex and delicate mechanism." Claude Bernard, *An Introduction to the Study of Experimental Medicine* (1865). For life to be "set going" and survive, the single unit of life (the cell) must utilise and manage energy. This is as true for a single cell as it is for a multi-cellular organism such as you. The course deals with the way cells manage their energy requirements by reference to the processes of carbohydrate, fat and protein metabolism. Cellular processes that allow the complete breakdown of these food molecules to produce energy will be discussed with reference to glycolysis, the citric acid cycle, the breakdown of fatty acids, the terminal respiration system and oxidative phosphorylation. Mechanisms by which cellular molecules are built from simple precursors will also be explored via the processes of gluconeogenesis, glycogen synthesis, photosynthesis, the pentose phosphate pathway and amino acid metabolism. This collection of highly dynamic processes can only take place in a coordinated manner because of enzymes, which allow the processes to occur and also offer points of control, consequently enzyme function and catalysis will be discussed. The course will conclude by examining how the human body can control these processes to efficiently control its energy requirements and expenditure.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 two-hour essay/short answer examination (70%) and in-course assessment (30%).

Continuous assessment comprises: 1 lab report (30%).

Resit: 1 two-hour essay/short examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

PRS-based revision sessions allow students to assess their understanding of the lecture material and receive feedback on their performance.

**Feedback:**

Practical reports will be marked with written comments. Students are given general feedback on performance during PRS revision sessions. Students receive on-line feedback on completion of the on-line tests.



<b>CM2514</b>	<b>Organic &amp; Biological Chemistry</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Dr Laurent Tremblau		
<b>Course Overview:</b> Modern organic and biological chemistry comprise the chemistry of carbon-containing compounds, which are natural (e.g. foods, fuel, perfumes) as well as synthetic (e.g. soaps, textile fabrics, pharmaceuticals). This course investigates some key areas in organic chemistry: shape, conformation, stereochemistry, and chemical properties of organic and biological compounds. Reactions and reactivity of aliphatic derivatives, olefins and aromatic compounds will be considered with particular reference to spatial and electronic effects. The experiments performed in the lab will help students understand key organic concepts and develop their synthetic/analytical skills.		
<b>Course Description:</b> Shape, conformation, and stereochemistry in organic and biologically relevant compounds. Reactions and reactivity of both aliphatic and aromatic compounds will be considered with particular reference to spatial and electronic effects.		
<b>Assessment &amp; Feedback:</b> <b>Summative Assessment:</b> 1st Attempt: 1 two-hour written examination (60%), laboratory assessment (25%), continuous assessment (15%). Resit: 1 two-hour written examination (100%).  <b>Formative Assessment:</b> Formative assessment given during tutorial classes and laboratory classes.  <b>Feedback:</b> Marks for lab experiments and MyAberdeen assignments available as soon as possible after the assessments; feedback on wrong answers provided. Informal discussion with students in lab sessions.		

<b>CS1022</b>	<b>Computer Programming and Principles</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Dr Adam Wyner & Dr Frank Guerin		
<b>Course Overview:</b> Students will be exposed to the basic principles of computer programming, e.g. fundamental programming concepts, algorithms, and maths (e.g. logic, set theory, graphs). The course consists of lectures where the principles are systematically developed; as the course does not presuppose knowledge of these principles, we start from basic intuitions. In addition to the lectures, there will be weekly practicals to work with the concepts. Understanding the principles behind computer programming gives one the framework to learn new programming concepts, adapt to changing circumstances, and engage in theoretical research in Computing Science.		
<b>Course Description:</b> The course will cover the basic principles of computer programming consisting of topics such as the following:		





- Fundamental programming concepts including variables and scope, conditional statements, and iteration.
- Pseudocode.
- Fundamental algorithms including simple sorting and searching, and data structures including arrays.
- Boolean algebra, logic, set theory and proof.
- Relations, functions, combinatorics, graphs.

#### **Assessment & Feedback:**

##### **Summative Assessment:**

1st Attempt: 1 two-hour written examination (75%); continuous assessment (25%).

Resit: 1 two-hour written examination (75%); continuous assessment mark carried forwards (25%).

##### **Formative Assessment:**

During lectures, the Personal Response System and/or other ways of student interaction will be used for formative assessment. Additionally, practical sessions will provide students with practice opportunities and formative assessment.

##### **Feedback:**

Formative feedback for in-course assessments will be provided in written form. Additionally, formative feedback on performance will be provided informally during practical sessions.

MN1001	Mandarin Chinese for Beginners 1	Credit Points: 15
<b>Course Co-ordinator(s):</b> Ms Ye Gao		
<b>Course Overview:</b>		
<p>This course aims to familiarize students with the basics of spoken and written forms of Mandarin Chinese. Emphasis will be placed first on speaking and listening, particularly pronunciation and tones. The written form will be presented first through the medium of pinyin and gradually students will be introduced to a small number of the highest frequency characters. The emphasis will be on dialogue and role play. It covers a good deal of ground in the four class hours a week, and requires considerable effort and self-study to consolidate new vocabulary, grammar and Chinese characters (hànzì).</p>		
<b>Course Description:</b>		
<p>This course aims to familiarize students with the basics of spoken and written forms of Mandarin Chinese. Emphasis will be placed first on speaking and listening, particularly pronunciation and tones. The written form will be presented first through the medium of pinyin and gradually students will be introduced to a small number of the highest frequency characters. The emphasis will be on dialogue and role play.</p>		
<b>Assessment &amp; Feedback:</b>		
<b>Summative Assessment:</b>		
1st Attempt: Examination (40%); Course Work - Language exercises (60%).		
Resit: Examination (100%).		



**Formative Assessment:**

Course work (60%).

2 formative assessments on different aspects of written Chinese language; plus 1 formative assessment of aural Chinese language, and 1 formative assessment of oral Chinese language.

**Feedback:**

The above assessments are given CAS marks, and written or verbal feedback is also provided. Additional informal feedback on performance is also given in both written language classes and oral/aural classes.

**PS1011****Introductory Psychology I:  
Methods and Applications****Credit Points: 15****Course Co-ordinator(s):**

Dr Mirjam Brady-Van den Bos

**Course Overview:**

PS1011 is a perfect combination of subject-specific knowledge and transferable skills. In weekly lectures and hands-on practicals, you will learn how various research methods are applied across a range of Psychology sub-fields. In addition, you will learn how to read scientific articles and begin to critique them. You will also be encouraged to develop skills such as giving presentations and writing literature reviews. Apart from acquiring these skills, the course will give you insight into the 'human factor' that all sciences necessarily have in common, and as such it will be a valuable addition to any degree.

**Course Description:**

The course will cover core experimental methods and research design in psychology. These experimental methods will be linked to a range of data handling techniques and interpretation skills.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: Continuous assessment (70%) and MCQ exam (30%). Coursework will consist of practical reports, assessed oral presentations, SONA experimental participation credits, and short assignments completed in class).

Resit: Resubmitted coursework assignments (50%) and MCQ exam (50%).

**Feedback:**

Students will receive written feedback on continuous assessment.

**PS2018****Advanced Psychology A:  
Methods and Applications****Credit Points: 15****Course Co-ordinator(s):**

Dr David Sutherland

**Course Overview:**

This course aims to introduce students to a broad range of methods used in psychological research. Lectures cover methods used to collect physiological data (e.g. brain imaging techniques), behavioural data (e.g. measures of task performance) and self-report data (e.g. survey, questionnaire and interview techniques). Practical classes involve students working in small groups to design studies, collect and analyse data, and write reports. Practical sessions



also used to teach students to use a statistical software package (SPSS) to analyse data collected in psychological studies.

**Course Description:**

This course will cover a range of core research methods and data handling techniques used in contemporary psychological research.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: Continuous assessment (50%) and multiple choice exam (50%)

Resit: Students will be able to repeat individual components.

Formative Assessment:

Formative assessment will be provided through a subset of practical sessions and tutorials.

Feedback:

Students will receive written feedback on continuous assessment.

<b>SM2501</b>	<b>Research Skills for Medical Sciences</b>	<b>Credit Points: 15</b>
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**Course Co-ordinator(s):**

Dr Derryck Shewan

**Course Overview:**

- this course cultivates literature research skills, building confidence in team-working and communication through scientific writing and seminar presentation;
- it encourages student-led learning and organisation in researching a topic on human health or disease of your own choice, with tutors providing guidance;
- you will learn to use online and library resources to search for information from primary research articles and relay that information in the form of a written report and a Powerpoint presentation to peers and academic tutors;
- these are all fundamental skills for scientific researchers, but are also transferrable talents for many other career pathways

**Course Description:**

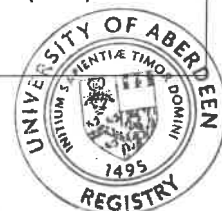
This course focuses on enhancing core research skills for the study of the medical sciences. It is a requirement for all students with degree intentions in the School of Medical Sciences. The course develops the essential skills that are needed to undertake a research project. Its aim is to instil an active student-driven approach to learning based on curiosity and exploration of knowledge as opposed to passive acquisition. Students work in groups of 6 and will research a particular topic related to the general theme of 'Health and Disease'. Students learn to critically analyse published work, evaluate sources of information, basic presentation skills.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: Continuous assessment (100%); comprising:

An individual report (submitted under exam conditions) (40%) A group presentation (40%) A graded tutorial (15%) Student group peer-assessment (5%)



Students who do not contribute to the group effort have to do a project on their own, which they present to staff (40%) they receive a tutor mark (15%) and do an individual report (submitted under exam conditions)(40%). They forfeit the (5%) peer assessment.

**Formative Assessment:**

Students receive regular feedback from tutors on their progress with both the oral presentation and the report.

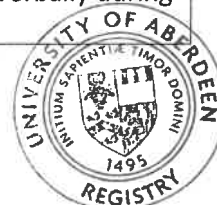
**Feedback:**

Comprehensive feedback on both presentation and report are provided.



The following descriptions are correct for the academic year 2016/17:

<b>BM3501</b>	<b>Cardiovascular Physiology and Pharmacology</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Dr Fiona Murray		
<b>Course Overview:</b> <ul style="list-style-type: none"><li>• cardiovascular disease is the leading cause of death worldwide. Using teaching informed by high-quality research this course provides a comprehensive understanding of cardiovascular physiology and pathophysiology;</li><li>• you will learn how the knowledge of physiological processes is directed into identifying drugs targets for disease, which will improve your understanding of drug discovery;</li><li>• insight into the molecular and cellular action of drugs in the cardiovascular system will prepare you for your final year research project;</li><li>• wider transferable skills include problem solving, data interpretation and training in the ethical and safety aspects of recruiting human subjects in research.</li></ul>		
<b>Course Description:</b> <p>This course will cover the physiology of the mammalian heart and circulatory systems and the pathophysiology and pharmacology of cardiovascular disease. Lectures will provide an integrated view of the cardiovascular system from the cellular level up to the whole animal. Topics include cardiovascular structure and function, excitable membranes, muscle contraction, intravenous fluids, and the physiology of platelets. Fundamental physiological principles will be discussed in relation to pathologic conditions of the cardiovascular system, such as diabetes, hypertension, myocardial infarction, angina and atherosclerosis. The mechanism of action of drugs used to treat these conditions will be described in detail to facilitate an understanding of the rationale for current and future therapeutic interventions. Practical work and demonstrations will be used to illustrate the experimental techniques that are utilised to derive knowledge of the cardiovascular system.</p>		
<b>Assessment &amp; Feedback:</b> <p><b>Summative Assessment:</b> 1st Attempt: 1 one and a half hour written examination (70%) and in-course assessment - (30%). Continuous assessment comprises: 1 laboratory report, 2 case studies. Resit: 1 one and a half hour essay examination (70%) and previous continuous assessment (30%).</p> <p><b>Formative Assessment:</b> - Case-study exercise with feedback in preparation for summative assessments. - PRS-based revision sessions allow students to practice for MCQ tests and receive feedback on their performance.</p> <p><b>Feedback:</b> - Practical reports and case studies will be marked with written comments. - Case study questions will be discussed during a lecture/feedback session. - Students are given general feedback on performance during PRS revision sessions. - Model answers for case studies and practicals also placed on MyAberdeen. - Feedback on laboratory practical performance also given verbally during classes.</p>		



**Course Co-ordinator(s):**

Dr Derek Scott

**Course Overview:**

- during this course, you will start to appreciate why the diagnosis and treatment of various neurological and psychiatric disorders is both an art and a science;
- students will use real-life examples from case studies to help develop and demonstrate their knowledge and understanding;
- practical classes will enhance students understanding of why developing new neuropharmaceuticals is challenging and will improve their laboratory and analytical skills;
- this course will help students understand why multidisciplinary teams are essential in improving our understanding and treatment of neurological and psychological disorders;
- this course will improve your problem-solving, scientific writing, practical and data handling skills

**Course Description:**

The course will include lectures on functional neuroanatomy, autonomic and neuromuscular pharmacology, neuropharmacology to include functional aspects of excitatory and inhibitory amino acids, monoamines, peptides and nitric oxide. It will explore pain, opioids and narcotic analgesics and drugs depressing CNS function (e.g. cannabinoids, antidepressants, anticonvulsants and antipsychotics), as well as discussing the issues/mechanisms of tolerance and addiction.

We will review applications of various drugs that affect the nervous system and explore how they were discovered and developed, how they are applied in everyday life, what the potential disadvantages of them might be, and also what the future holds for the development of novel drugs used to treat diseases/disorders of the nervous system. We will briefly also review the differences in how medical scientists and psychologists view what goes wrong during such diseases and disorders.

Finally, the course will explain various basic concepts in physiology and pharmacology and show how we statistically analyse data from experiments using novel drugs and what conclusions we can draw from such investigations.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 one and a half hour essay examination (70%) and in-course assessment (30%).

Continuous assessment comprises: 1 data handling/statistical analysis exercise, one 1500 word essay, 2 case studies. Resit: 1 one and a half hour essay examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

- Practice exam essay allows students to write under exam conditions and receive feedback on their performance. - Case-study exercise with feedback in preparation for summative assessments. - PRS-based revision sessions allow students to practice for MCQ tests and receive feedback on their performance. - Problem-solving sessions using real pharmacological data will provide feedback as to whether the students are understanding the topics covered within the lecture elements of the course and also if they understand how and why the data are analysed in specific ways. Feedback is given gradually during these sessions, ensuring that all students understand what is covered in that session before we move on to the next.



**Feedback:**

- Practical reports, case studies and essays will be marked with written comments. Model answers are also supplied via MyAberdeen. - Case study questions will be discussed during a lecture/feedback session. - Written comments will be provided on the mock exam question. - Students are given general feedback on performance during PRS revision sessions.

**BM3804****Neuroscience Research Topics****Credit Points: 15****Course Co-ordinator(s):**

Dr Ann Rejniecek

**Course Overview:**

- the course outlines structural and functional alterations occurring in neuronal tissue during development, in the adult and in disease states;
- the course aims to identify and explain the mechanisms underlying these events and to provide an understanding of their functional consequences by building on the expertise of neuroscience researchers;
- you will gain cutting edge, in depth knowledge of nervous system development, function and the pathology of specific disease states affecting the nervous system;
- wider transferrable skills will be gained, such as scientific writing, problem solving, and practical assessment of nervous system function, thus developing graduate attributes and skills for employability

**Course Description:**

This course builds on the basics of nervous system function covered in level 2 and BM3502. The major focus of the course relates to neuronal plasticity. Structural and functional alterations occur in neuronal tissues during development, in the adult and in disease states. This course aims to: outline a number of these changes; identify and explain the mechanisms underlying these plastic events; provide an understanding of their functional consequences.

**Assessment & Feedback:****Summative Assessment:**

1st Attempt: 1 one and a half hour essay examination (70%) and in-course assessment (30%).

Continuous assessment comprises: 1 laboratory report, 1 abstract. Resit: 1 one and a half hour examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

- Practice exam questions on MyAberdeen.

**Feedback:**

- Practical report and abstract will be marked with written comments.



PA3004

**Biochemical Pharmacology  
and Toxicology**

**Credit Points: 30**

**Course Co-ordinator(s):**

Dr Steve Tucker

**Course Overview:**

- this will be the first specific Pharmacology course encountered, and lays appropriate foundations upon which advanced Pharmacological understanding is developed;
- critical concepts of pharmacological and toxicological relevance are covered in-depth at a molecular and biochemical level, with the ultimate significance to the human organism also studied;
- a modern and recently developed practical thread (partly funded by the British Pharmacological Society) permits application of lecture materials, and enhances employability through development of relevant core practical skills;
- research-led special topics are also embedded where the materials studied are put in context through teaching driven by recent organ system medical research

**Course Description:**

This course covers an introduction to bioanalytical techniques used in pharmacology and toxicology, ADME, drug metabolism, pharmacokinetics, an introduction to toxicology, carcinogenesis, mutagenesis and biochemical mechanisms of drug action. Latterly, the course will focus on special study areas relating to pharmacology + toxicology of the renal, respiratory and musculoskeletal systems.

**Assessment & Feedback:**

**Summative Assessment:**

1st Attempt: 1 three-hour written examination paper (70%) and in-course assessment - essays, calculations, problem solving, laboratory reports, MCQ's (30%). Resit: 1 three-hour essay examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

The students complete multiple formative exercises throughout the course relating to the different blocks of lectures. Formative problems and questions will also be issued in the practicals for students to attempt.

**Feedback:**

- Students get significant feedback on all of their submitted practical reports and their assignments that they do as part of the continuous assessment. They also get feedback relating to the solutions to the formative problems that they are faced with. - All the assignments will be discussed with the students after they have completed them and submitted, so the written feedback is backed up with verbal feedback. - Further feedback is available on request and encouraged by the responsible lecturer.





<b>PA3802</b>	<b>Mechanisms of Disease and Principles of Chemotherapy</b>	<b>Credit Points: 15</b>
<b>Course Co-ordinator(s):</b> Professor Heather Wallace		
<b>Course Overview:</b> <ul style="list-style-type: none"> <li>• by understanding the process of a disease we can find ways of both treating it and/or preventing it;</li> <li>• this course uses the examples of cancer, infectious disease and inflammatory disease to illustrate this;</li> <li>• the factors leading to or causing the disease will be described;</li> <li>• using this knowledge the way in which the drugs used to treat the disease work will be discussed;</li> <li>• problems that arise from drug treatment such as drug resistance will also be covered</li> </ul>		
<b>Course Description:</b> A series of lectures covering cancer, immunology, antiviral and antimicrobial agents, cancer pathology and genetics.		
<b>Assessment &amp; Feedback:</b> Summative Assessment: 1st Attempt: 1 one and a half hour essay examination (70%) and in-course assessment (30%). Continuous assessment comprises: 1 laboratory report, 1 presentation, 1 essay. Resit: 1 one and a half hour essay examination (70%) and previous continuous assessment (30%).  Feedback: - Practical reports and essays will be marked with written comments. - Tutorial sessions will provide feedback on course content. - Students are given general feedback on performance during PRS revision sessions.		

<b>SM3001</b>	<b>Frontiers of Molecular Medical Sciences</b>	<b>Credit Points: 30</b>
<b>Course Co-ordinator(s):</b> Dr Berndt Mueller		
<b>Course Overview:</b> <ul style="list-style-type: none"> <li>• this course covers many of the core technologies that are essential for advanced research in Molecular Medical and related sciences;</li> <li>• you will gain cutting edge, in depth and focussed knowledge of core experimental approaches and technologies and their practical applications in a research-based context;</li> <li>• you will acquire core practical laboratory skills;</li> <li>• this course will prepare you for advanced study of molecular medical sciences;</li> <li>• wider transferrable skills such as analytical thinking, problem solving and advanced laboratory techniques are interwoven strands aimed at developing graduate attributes and employability</li> </ul>		
<b>Course Description:</b> This course describes and explains the theory and practice of the tool kit that modern molecular biology uses to derive information about how biological systems function and interact. Detailing a wide and comprehensive range of molecular techniques, the material leads from basic molecular		



biology and the manipulation of DNA and RNA, through gene cloning and gene expression analysis, to studies of the function of genes and their protein products. This is followed by a consideration of the study of proteins themselves, together with their properties. Finally, the use of antibodies as molecular tools is considered.

**Assessment & Feedback:**

**Summative Assessment:**

1st Attempt: 1 three hour essay examination (70%) and in-course assessment (30%). Continuous assessment comprises: 1 laboratory report, 1 lab related problem solving exercise. Resit: 1 three hour essay examination (70%) and previous continuous assessment (30%).

**Formative Assessment:**

- Case-study exercise with feedback in preparation for summative assessments. - PRS-based revision sessions allow students to receive feedback on their performance. - Practice exam questions on MyAberdeen. - Problem-solving sessions.

**Feedback:**

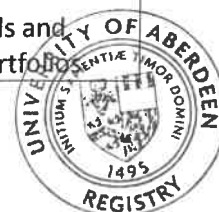
- Practical reports will be marked with written comments. - Problem solving questions will be discussed during a lecture/feedback session. - Tutorial sessions will provide feedback on course content. - Students are given general feedback on performance during PRS revision sessions. Feedback on problem-based learning exercise.



The following descriptions are correct for the academic year 2017/18:

BM4004	Advanced Molecules, Membranes and Cells	Credit Points: 30
<p><b>Course Co-ordinator(s):</b> Professor Martin Collinson</p> <p><b>Course Overview:</b></p> <ul style="list-style-type: none"> <li>the core professional knowledge you need, to be able to contribute to research-level biomedical science, especially in fields of pharmacology and physiology;</li> <li>active research scientists explain the latest developments in our understanding of brain function in health and disease, hormone and steroid signalling systems, epithelial biology and cellular homeostasis;</li> <li>small group practical classes in working laboratories introduce core research and data analysis techniques;</li> <li>research scientists present in depth material on core research techniques – transgenic animals, genome editing, biological imaging, patch clamp analysis and ‘omic’ technologies</li> </ul> <p><b>Course Description:</b> This course provides (1) a recap and extension of third year material and (2) a more advanced account of some selected topics related to the research interests of the individual academic staff of Biomedical Sciences. The topics for study will include: methods for cell imaging, electrophysiology and genetic manipulation, endocrine signalling; neuronal growth, epithelial transport, calcium signalling, psychopharmacology, development of animal models of neurodegenerative disease and oxidative stress in neurovascular dysfunction.</p> <p><b>Assessment &amp; Feedback:</b> Summative Assessment: 1st Attempt: 1 three hour essay examination (70%) and in-course assessment (30%). Continuous assessment comprises: 1 laboratory report, 1 viva &amp; 1 essay (2000 words).</p> <p>Formative Assessment: Student-led presentations on aspects of using animals in biomedical sciences.</p> <p>Feedback: - Practical reports and essays will be marked with written comments. - Viva examination with comments and recommendations from the examiner.</p>		

PA4005	Molecular Pharmacology	Credit Points: 15
<p><b>Course Co-ordinator(s):</b> Dr James Hislop</p> <p><b>Course Overview:</b></p> <ul style="list-style-type: none"> <li>this course provides topical reviews of receptor diversity, expression and signalling in the contexts of both basic science and applications in the treatments of disease and ill health;</li> <li>modern and developing aspects of pharmacology are linked with proteomics/ genomics, therapeutics and methods of drug discovery;</li> <li>specialist emerging aspects of molecular pharmacology including biased ligands and receptor trafficking and their role in disease will be studied in detail;</li> <li>in addition to lectures the course includes advanced data analysis-based tutorials and data presentation which will enhance transferable skills and add to graduate portfolio</li> </ul>		



**Course Description:**

This course provides (1) a recap and extension of third year material and (2) a more advanced account of selected topics some of which relate to the research interests of the individual academic staff of Biomedical Sciences and others which are topical areas in molecular pharmacology. The topics for study will include: cellular and molecular actions of drugs (thalidomide, Parkinson's disease and addiction), bioinformatics and systems biology applied to pharmacology, sphingosine-1-phosphate signalling, G-protein-coupled receptor activation, signalling and trafficking, diabetes and insulin resistance, marine natural products and gastro-intestinal pharmacology and therapeutics.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt

1 two-hour essay examination (70%)

Objective Structured Practical Examination (OSPE) (20%)

Oral presentation (10%)

Formative Assessment:

- Four problem-solving tutorials.

Feedback:

- Essays and oral presentations will be marked and written comments provided. - Problem solving questions will be discussed during tutorials.

**PA4302****Molecular Toxicology****Credit Points: 15****Course Co-ordinator(s):**

Professor Heather Wallace

**Course Overview:**

- this course extends previous knowledge in the area of drug metabolism and toxicology;
- the process of drug development will be examined from the importance of understanding the metabolic profile of drugs and their transport to covering molecular aspects of pre-clinical toxicology;
- external Experts from academia and the pharmaceutical industry contribute to the teaching and assessment of this important area;
- this course opens up new opportunities for employability in academia and the pharmaceutical industry

**Course Description:**

This course covers aspects of toxicology relevant to pharmacology, for example topics likely to be included are: the toxicological significance of drug/xenobiotic oxidation, drug transporters, immunotoxicity, immunopharmacology, developmental toxicology, molecular carcinogenesis and risk assessment.

**Assessment & Feedback:**

Summative Assessment:

1st Attempt: 1 two-hour written examination paper (70%) and in-course assessment - essay (2,000 words), laboratory report and problem solving (30%).



**Formative Assessment:**  
Problem solving tutorials.

**Feedback:**  
Essays and practicals marked with written feedback comments. Problem solving - oral feedback and written comments.

**PA4501**

**Pharmacology Project**

**Credit Points: 60**

**Course Co-ordinator(s):**  
Dr Derryck Shewan

**Course Overview:**

- the project offers a wonderful opportunity to carry out cutting-edge literature or laboratory-based scientific research;
- with around 150 projects to choose from, this is a fantastic opening to follow your interests working with academic staff and leading scientific researchers;
- the project forms the zenith of your degree and fosters further development of the scientific skills and knowledge you have gained and heightens analytical and critical thinking abilities;
- the opportunity to be part of novel, yet-to-be published research projects can be career-defining, and provides the ideal experience to prepare you for postgraduate study and other future careers

**Course Description:**

A 10-week research project is undertaken alone or in pairs in which the student learns laboratory or literature research techniques. Each student is assigned to a research team usually on the Foresterhill site, but occasionally projects may be offered by associated teams outwith the University, for example at The Robert Gordon University. Each student independently submits the outcome of the project as a thesis in the format of a scientific paper. An oral account of the project is presented to SMS staff and fellow students. Students gain extensive experience of literature research procedures, data acquisition and analysis, and critical thinking. Students are assessed on both their performance throughout the whole project and the quality of the written thesis.

**Assessment & Feedback:**

**Summative Assessment:**

1st Attempt: Continuous assessment of day-to-day performance throughout project duration (25%); Supervisor assessment of project report of up to 7500 words (laboratory project) or 10,000 words (literature project) (25%); Independent second marker's assessment of project report (50%).

Resit: Continuous assessment of day-to-day performance throughout project duration (25%), supervisor assessment of project report of up to 5,000 words (25%) and independent second marker's assessment of project report (50%).

**Formative Assessment:**

Practice oral presentation of research data. Practice scientific writing.

**Feedback:**

Tutorial sessions provide feedback on research and/or practical/technical abilities. Feedback on draft thesis provides tuition in scientific writing.



**Course Co-ordinator(s):**

Mrs Tracey Innes &amp; Mrs Kate Robertson

**Course Overview:**

This course, which is prescribed for level 1 students and optional for level 2 students, is studied entirely online and covers topics relating to careers and employability, equality and diversity and health, safety and wellbeing. During the course you will learn about the Aberdeen Graduate Attributes, how they are relevant to you and the opportunities available to develop your skills and attributes alongside your University studies. You will also gain an understanding of equality and diversity and health, safety and wellbeing issues. Successful completion of this course will be recorded on your Enhanced Transcript as 'Achieved' (non-completion will be recorded as 'Not Achieved'). The course takes approximately 3 hours to complete and can be taken in one sitting, or spread across a number of weeks and it will be available to you throughout the academic year.

This course, which is prescribed for level 1 students and optional for level 2 students and above, is studied entirely online and covers topics relating to careers and employability, equality and diversity and health, safety and wellbeing. During the course you will learn about the Aberdeen Graduate Attributes, how they are relevant to you and the opportunities available to develop your skills and attributes alongside your University studies. You will also gain an understanding of equality and diversity and health, safety and wellbeing issues. Successful completion of this course will be recorded on your Enhanced Transcript as 'Achieved' (non-completion will be recorded as 'Not Achieved'). The course takes approximately 3 hours to complete and can be taken in one sitting, or spread across a number of weeks and it will be available to you throughout the academic year.

**Course Description:****Course Aims**

The course will develop the employability of students through engaging them in their development of Aberdeen Graduate Attributes through the co-curriculum. The course will introduce students to the concepts and importance of health, safety & wellbeing and equality and diversity awareness.

**Main Learning Outcomes**

The course will comprise overall topic learning outcomes to enable students to:

1. Understand the concept of Aberdeen Graduate Attributes and how they can be developed through engagement in co-curricular and extra-curricular activities.
2. Understand the concept of equality and diversity and how it affects themselves and others.
3. Understand and implement health, safety & wellbeing guidelines, policies and procedures.

**Course Content**

1. The course consists of the following 3 topics:
2. Developing your Aberdeen Graduate Attributes
3. Understanding Equality and Diversity Issues
4. Health, Safety & Wellbeing for Students



**Assessment & Feedback:****Summative Assessment:**

For each of the three topics you will complete a summative online assessment in the form of a quiz, each of which has a set pass mark. You have unlimited attempts at the summative quizzes, and only your last result will be recorded.

**Formative Assessment:**

Students will complete a series of formative online activities and tests.

**Feedback:**

Automated written formative feedback is provided throughout the course relating to the formative online activities and tests you complete. Where formative quiz questions are answered incorrectly twice, feedback including the correct answers and detailed explanations about each question are given and you can continue to progress through the course and/or explore the further resources provided.

PD2001	Professional Skills Part 2	Credit Points: 0
<b>Course Co-ordinator(s):</b> Mrs Tracey Innes		
<b>Course Overview:</b> This course, which is designed for level 2 students and above, is studied entirely online and covers topics relating to finding work experience and articulating your skills and experiences in applications and interviews. During the course you will learn about the importance of work experience and how to find and make the most out of opportunities suitable for you, and discover how to present yourself effectively in applications and interviews for work experience, graduate employment and postgraduate study. Successful completion of this course will be recorded on your Enhanced Transcript as 'Achieved'. The course takes approximately 3 hours to complete and can be taken in one sitting, or spread across a number of weeks and it will be available to you throughout the academic year.		
<b>Course Description:</b> Course Aims  The course will develop the employability of students through equipping them with the necessary tools to market themselves for employment and further study opportunities and identify and secure work experience opportunities.		
<b>Main Learning Outcomes</b> The course will comprise overall topic learning outcomes to enable students to: <ol style="list-style-type: none"><li>1. Articulate their skills and experiences to others in applications and interviews for work experience, graduate employment and postgraduate study.</li><li>2. Source and make the most out of work experience opportunities including reflecting on their development of skills and Aberdeen Graduate Attributes.</li></ol>		
<b>Course Content</b> The course consists of the following two topics: <ol style="list-style-type: none"><li>1. Presenting yourself effectively to recruiters</li><li>2. Finding and reflecting on work experience</li></ol>		



**Assessment & Feedback:****Summative Assessment:**

For each of the two topics you will complete a summative online assessment in the form of a quiz, each of which has a set pass mark. You have unlimited attempts at the summative quizzes, and only your last result will be recorded.

**Formative Assessment:**

Students will complete a series of formative online activities and tests.

**Feedback:**

Automated written formative feedback is provided throughout the course relating to the formative online activities and tests you complete. Where formative quiz questions are answered incorrectly twice, feedback including the correct answers and detailed explanations about each question are given and you can continue to progress through the course and/or explore the further resources provided.

**PD3001****Professional Skills Part 3****Credit Points: 0****Course Co-ordinator(s):**

Mrs Tracey Innes

**Course Overview:**

This course, which is designed for level 3 students and above, is studied entirely online and covers topics relating to career planning, graduate jobs and further study. During the course you will learn about the factors important to your career choices, approaches to career decision making, applying career research strategies and identifying suitable opportunities for work and/or further study. Successful completion of this course will be recorded on your Enhanced Transcript as 'Achieved' (non-completion will be recorded as 'Not Achieved'). The course takes approximately 3 hours to complete and can be taken in one sitting, or spread across a number of weeks and it will be available to you throughout the academic year.

**Course Description:****Course Aims**

The course will develop the employability of students through equipping them with the necessary skills to develop well researched career plans and identify suitable opportunities for graduate employment or postgraduate study. The course will also explore issues related to health and safety and equality and diversity.

**Main Learning Outcomes**

The course will comprise overall topic learning outcomes to enable students to:

- 1) Develop well researched career plans to enable them to source suitable opportunities for graduate employment or postgraduate study.
- 2) Understand the concept of equality and diversity and how it affects themselves and others.
- 3) Understand and implement health and safety guidelines, policies and procedures.

**Course Content**

The course consists of the following 3 topics:

- 1) Career planning, graduate jobs and further study
- 2) Understanding equality and diversity issues





### 3) Health and safety for students

**Assessment & Feedback:****Summative Assessment:**

Given there are no credits for the course, there are no summative assessments.

**Formative Assessment:**

Students will complete a series of online activities and tests with two attempts and automated feedback and resources given if the standard is not met.

**Feedback:**

Automated written feedback is provided following two unsuccessful attempts at the tests.

Feedback includes the correct answers and detailed explanations about each question and corresponding answer. Further resources are given.



