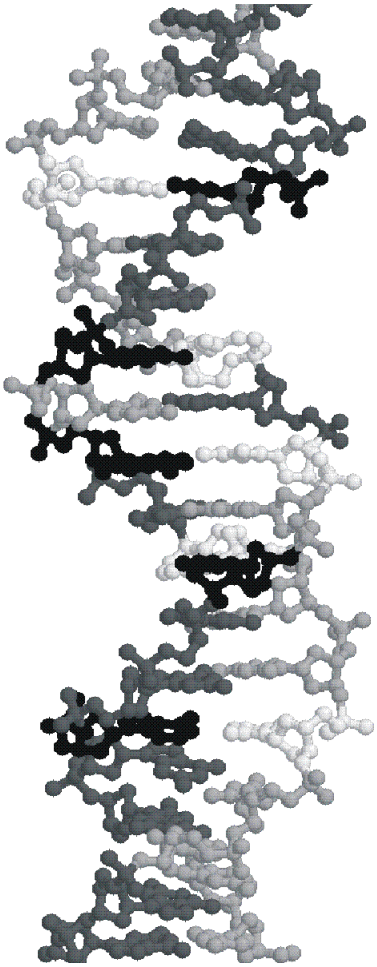
DIVISION OF INFECTION & IMMUNITY



# MSc Molecular Medicine

Programme Handbook
2012-2013

**CONTENTS**

Welcome 1

Key Dates and Holidays 2

Your Relationship with Us, Personal Tutors, Absence, Complaints 4

Addresses, Enrolment & Registration, and Vaccinations 5

Introduction to the Programme 6

Assessment 8

Examinations 10

Plagiarism 12

The Modules 14

Core Modules 15

- Introduction to Molecular Medicine 15
- Data Interpretation 16
- Molecular Basis of Disease 17
- Core Laboratory Practicals 18

Specialised Modules 19

- Microbial Pathogenesis 20
- Immunological Basis of Disease 21
- Molecular Oncology 22
- Advanced Virology 23
- Cell and Gene Therapy 24

Assessment Guidelines for Taught Modules 25

Web-Based Data Mining & Analysis Project 27

Laboratory-Based Research Project Module 29

Programme Evaluation 33

Other important information 34

**Welcome to the Division of Infection & Immunity at UCL**

UCL is one of the leading universities in the UK for research in medical sciences and clinical medicine. The Division of Infection & Immunity (part of UCL Medical School) comprises the Research Department of Immunology and the Research Department of Infection. We conduct immunology, virology, microbiology and autoimmunity research across the Bloomsbury and Royal Free campuses. The majority of the Division of Infection & Immunity research groups were rated 4* (the highest score attainable) or 3* in the 2008 Research Assessment Exercise.

Our aim is to link fundamental laboratory research with the specialised clinical interests of the hospitals in the UCL Partners Academic Health Science Partnership. It is this clinical link, together with our geographical location providing a diverse patient case mix, which provides a unique research environment within the UK.

We have collaborative research links within UCL (particularly with the Research Department of Inflammation, the Institute of Child Health [Great Ormond Street] and the Institute of Ophthalmology) and with institutions throughout the world. In addition the clinical infectious disease interface includes the University College and Royal Free Hospitals; the London School of Hygiene and Tropical Medicine; the Health Protection Agency and the National Blood Service.

Faculty within the Division are committed to research–led teaching and you will have the opportunity to meet many of them during the programme. We encourage you to make the most of your year at UCL and offer you a very warm welcome. We hope that you enjoy the Programme and your time in London.

Richard Milne, Programme Director
Pete Delves, Deputy Programme Director
Lauren Collins, Programme Administrator

How to contact us:

Dr Richard Milne

Tel: 020 7830 2997
Email richard.milne@ucl.ac.uk

Professor Peter Delves

Tel: 020 3108 2135
Email p.delves@ucl.ac.uk

Ms Lauren Collins

Tel: 020 3108 2116
Email lauren.collins@ucl.ac.uk

## Key Dates and Holidays

### KEY DATES

UCL Term Dates For academic year 2012-13

Term 1: Monday 24 September 2012 - Friday 14 December 2012
Term 2: Monday 7 January 2013 - Friday 22 March 2013
Term 3: Monday 22 April 2013 - Friday 7 June 2013

### TERM 1

**Welcome and Induction** Monday 24th September

**Welcome Round London Quiz (with Oncology)** Friday 12th October

**Introduction to Molecular Medicine module:** Tuesday 2nd October – Thursday 29th November 2012

**Data Interpretation module:** October – December 2012.

**Molecular Basis of Disease module:** Tuesday 11th October – Tuesday 6th December 2011

**Core Laboratory Practicals module:** Monday 15th October – Wednesday 21st November 2012.

**Web-Based Data Mining & Analysis Project.** Project and supervisor assigned by Monday 22nd October 2012

**Introduction to Molecular Medicine Module essay submission DEADLINE** 12:00 noon Friday 30th November 2012

**Data Interpretation coursework submission DEADLINE** 12:00 noon Friday 14th December 2012

### TERM 2

**Molecular Basis of Disease module written EXAM** Monday 7th January 2013 14:00-17:00 – *Location to be advised*

**Specialised modules:** Monday 7th January - Friday 22nd March 2013

**Core Laboratory Practical Module write-ups submission DEADLINE** 12:00 noon Tuesday 8th January 2013

**Web-Based Data Mining & Analysis Project submission DEADLINE** 12:00 noon Friday 1st March 2013

**Specialised module written EXAMS** (*locations to be advised*)

| | |
|---|---|
| Friday 5th April 2013 | 13:00-16:00 |
| Monday 8th April 2013 | 13:00-16:00 |
| Wednesday 10th April 2013 | 13:00-16:00 |
| Friday 12th April 2013 | 13:00-16:00 |

**Commence Laboratory-Based Research Project.** Monday 15th April 2013

**TERM 3**

**Finish lab work for Laboratory-Based Research Project. Friday 5th July 2013 (12 weeks)**

**Laboratory-Based Research Project submission DEADLINE.** 12:00 noon Thursday 11th July 2013

**ORAL EXAMINATION**. Monday 22nd July 2013

**Holidays**

Please note that the University offices and facilities are normally only closed on Bank Holidays, Christmas and Easter.

UCL **closed** from 5:30pm on Friday 21st December 2012 – 09:00am Wednesday 2nd January 2013 inclusive.

**MSc Molecular Medicine Student Christmas Vacation**. Monday 17th December 2012 – Friday 4th January 2013 inclusive

UCL **closed** from 5:30pm Wednesday 27th March – 9.00am Wednesday 3rd April 2013 inclusive.

**MSc Molecular Medicine Student Easter Vacation**. Monday 25th March – Thursday 4th April 2013 inclusive.

## Your relationship with us: Personal Tutors, Absence, Complaints

### Personal Tutor

You will be assigned a personal tutor who will provide pastoral (i.e. non-academic) support. This person will act as your first port of call should any non-academic problems (e.g. accommodation, financial or any other concerns) arise. Even if you do not have any problems, you should meet formally with them at least twice during the first term, once during the second term and once during the third term. We are then able to document that everything is O.K. In addition you should see them immediately if any problems do arise. Remember that it is usually easiest to sort out any problems early on rather than when they have developed into something more substantial. Therefore, please seek advice or reassurance from your personal tutor at the first opportunity. They are there to help and support you and will usually be able to see you at short notice should a crisis arise. Should you wish to change your personal tutor at any point, for any reason whatsoever, this is perfectly acceptable - please contact the Programme Administrator or Programme Director to arrange the transfer to a new personal tutor.

A note about References: You may well wish to use members of staff (e.g. your personal tutor or another member of staff who knows you) as referees for jobs or further study. Please seek the permission of whoever you are going to use as a referee. In any case, it is a good idea to talk briefly to your referee and perhaps to give them your CV.

### Absence

All students are required to report if they are away for more than two consecutive days. Please inform the Programme Administrator on 020 3108 2116 or lauren.collins@ucl.ac.uk.

If you are away for a week or more you are required to send in or bring the appropriate medical certificate(s). We will arrange to forward these to the necessary authorities. You must also inform the Programme Administrator (Ms Lauren Collins), the Programme Director (Dr Richard Milne) or your Personal Tutor that you are ill, or that some personal crisis is preventing your attendance.

In the case of illness or personal crisis during an examination, or while doing project work, it is **absolutely essential** that you obtain a doctor's certificate or a suitable letter from a professional and send it in to us immediately. You should ensure that the letter refers directly to the days affected, particularly if this includes the examination day itself. If you do not, the examiners cannot take your illness or troubles into account when marking.

Student Counsellors are also available. Please enquire at the Registry or Student Union.

### Complaints/appeals

You may have complaints and we would like to hear them as soon as possible. Many problems can be fixed, especially if you help us catch them early. If you have a formal complaint, any staff member will be happy to guide you in the correct procedure for pursuing it. If you have general complaints about the Programme, please see the Programme Director. Please speak to someone about any problem you may be facing before it escalates.

## Addresses, Enrolment & Registration, and Vaccinations

### Addresses

**It is very important that we have your correct term-time and home addresses**.

If you change your address it is your responsibility to

a) Notify the Programme Administrator (room 1.3.14, 1st floor, Cruciform Building)

and

b) Enter the changes on PORTICO, the UCL Registry and Academic Services website at www.ucl.ac.uk/portico. If we don't have your up-to-date address and telephone number, we won't be able to contact you if anything urgent arises.

### Enrolment and registration

You are required to enrol when you arrive to start your MSc programme; enrolment instructions will be provided by UCL Registry. You will have to prove your previous qualifications and your competency in English, if these were conditions in your offer of a place. You need to pay the required fees, or to make satisfactory arrangements for this payment. If you have been awarded a grant, your fees will be paid automatically. Please note that you have only 2 weeks from the start of your Programme to complete your enrolment, and until the end of October to pay your fees. Otherwise, after that date your registration for the Programme will automatically be cancelled. Please contact the UCL Registry if you have queries.

You will be issued with an identity card at enrolment that will enable you to access libraries, student union buildings and examination halls.

It is important to note that the name you give at enrolment is the name in which your Degree will be awarded, so give your 'proper' name. Any nickname or shortening of your name can be used informally during your time here if you wish.

### Hepatitis B vaccine

A majority of the laboratory based research projects are hosted by laboratories where human material (primary cells, serum, plasma, whole blood etc) are handled. These present a risk for Hepatitis B exposure. If you have not already been immunised, you are strongly advised to contact UCL Occupational Health and arrange for a course of the HBV vaccine. You will have to complete and submit to them the "Job Hazard Identification Form" which must be signed by the Programme Director or a designated deputy.

http://www.ucl.ac.uk/hr/occ_health/forms/index.php

You are not required to have HBV vaccine, but you should bear in mind that local safety rules mean that you may not be able to do your first choice of project if you have not received the vaccine.

## Introduction to the programme

The Molecular Medicine MSc programme is offered by UCL to graduates with a degree in a scientific, veterinary or medical discipline. The programme is administered by the Division of Infection and Immunity. The bulk of the teaching is provided by members of the following UCL Research Departments and Institutions:

Research Department of Immunology
Research Department of Infection
Research Department of Oncology
Institute of Child Health

and

Invited guest speakers
External supervisors

The programme consists of 8 modules:

Four compulsory Core Modules
Two Specialised Modules (two options selected from the five Specialised Modules)
One Web-Based Data Mining & Analysis Project module
One Laboratory-Based Research Project module

Descriptions of each module, including assessment criteria, are provided later in this handbook

The MSc Molecular Medicine is an intensive 1 year full time Programme. **Attendance at all the timetabled sessions is compulsory**. It is anticipated that you will undertake at least 5 hours of private study for each hour of staff contact time (lectures, practicals, tutorials, etc).

### Aims of the Programme:

The programme is designed to provide an understanding of the molecular basis of modern medicine. Each module is designed to introduce and evaluate molecular biological principles and to explore them in relation to disease processes and clinical application.

### Objectives:

To understand the molecular basis of pathogenesis, clinical presentation, diagnosis and treatment of human diseases.

To be able to describe and discuss topics related to infectious diseases, chronic diseases, genetic diseases, endocrine disorders, malignancy and/or diseases arising from abnormal immune responses.

To be able to carry out molecular, biological and computing techniques for investigation of human diseases.

### Programme website

You will find important information and learning resources for the MSc Molecular Medicine on the Programme Virtual Learning Environment:

www.ucl.ac.uk/moodle

**What do I need to know and at what level?**

You will be expected to know the material related to that presented in the lectures, tutorials, practical sessions and your two research projects. This includes the material in any references which are specified during the Programme. The recommended book for the Introduction to Molecular Medicine and the Molecular Basis of Disease modules is Alberts B *et al*. Molecular Biology of the Cell. 5th Ed.. 2008. Publ. Garland Science.

## Assessment

**Formative assessments** are used in some of the modules. These assessments provide you with feedback so that you can form an impression of how well you are doing, but the mark does not contribute to your final mark for the module. If an assessment is formative rather than summative this will be made clear to you.

**Summative assessments** contribute towards the overall mark you are awarded for the module. In this handbook the term 'assessment' usually refers to summative assessments and the weighting of each assessment to your final mark will be indicated.

If a student fails any of the written examinations they will have the opportunity to resit (as soon as is possible and once only) a new exam paper for that module. One resubmission of each piece of coursework for the taught modules is also allowed. You need to achieve an overall weighted mark of 50% or above in order to pass a module, but you do not need to achieve a pass mark in each component of a module.

Students should be aware that every module contributing to the Degree is marked and checked by at least two Internal Examiners. An External Examiner (who is from another university) monitors the standard of marking.

All candidates are referred to by number rather than name wherever possible to ensure anonymity in marking.

Following the MSc Molecular Medicine Board of Examiners meeting at the end of the programme, results will be released according to UCL guidelines.

### Coursework and Project Deadlines

It is useful to appreciate that a 'deadline' is **not** the time and date the work should be submitted. It is the absolute final time that work will be accepted (except if there are **substantial** extenuating circumstances; computer-related problems are NEVER accepted as an extenuating circumstance) without a late submission penalty (see below). In all cases work can be submitted days before the deadline, in some cases (depending on the nature of the assignment, e.g. the Web-Based Data Mining & Analysis Project) even weeks before, if you have already completed that piece of work. We **strongly** suggest you aim to submit all coursework earlier than the last due date.

**On occasions students have questioned why there are several deadlines all in the same week. From the above it should be evident that having to do several pieces of work in a short time can easily be avoided by managing your time effectively. You can commence work as soon as it is assigned and then submit it prior to, not on, the date of the deadline.**

### Submission of Coursework and Project Reports

You will be informed by module organisers of the method of submission of Coursework and Project Reports. For some items this is specified on the relevant pages of this handbook. Some coursework submission requires you to upload it via TurnItIn on Moodle. The coursework submission box is set up on the Moodle site under assessments. Once you submit your coursework it will be submitted automatically to TurnItIn (Plagiarism detection system; see below).

### Late Submission of Coursework

The full allocated mark will be reduced by 5 percentage points for the first working day after the deadline for the submission of the coursework.

The mark will be reduced by a further 10 percentage points if the coursework is submitted during the following six days.

For coursework submitted later than the above, providing it is submitted before the end of the first week of term 3, it will be recorded as zero but the assessment would be considered to be complete.

**Over-length Coursework**

Written assessments usually have a stated word limit. Most academic journals and grant awarding bodies impose word limits on submissions and reject them if the word limit is exceeded. Please adhere as closely as possible to the stated word limit.

Written work that exceeds the stated word limit by more than 10% will not be accepted for submission (i.e. it will not be date-stamped or otherwise recorded as formally submitted). Instead, it will be returned to the student with instructions to reduce the length. The work may then be resubmitted, however, late submission penalties will apply.

If submitted work is subsequently found to have an inaccurately stated word count and to exceed the upper word limit by at least 10% and by less than 20%, the mark awarded will be reduced by ten percentage points, subject to a minimum mark of a minimum pass assuming that the work merited a pass.

For work which exceeds the upper word limit by 20% or more, a mark of- zero will be recorded.

## Examinations

### General information

The examinations are set by the module organiser, checked by a second internal examiner and also by the External Examiner (from outside UCL). The examinations are marked by two internal examiners and the marking checked by the External Examiner. Examination scripts are marked anonymously. Recommendations about the results of individual modules and degrees awarded are made by the Board of Examiners for the MSc in Molecular Medicine to the Faculty Graduate Board of Examiners. The Board of Examiners for the MSc in Molecular Medicine includes all the Internal Examiners and the External Examiner.

### Extenuating circumstances

If there are any circumstances which affect your examination performance, either during the period of study or during the examination period, which you would like taken into account, please discuss this with the Programme Director (Dr Richard Milne) as soon as possible. Typical circumstances which might be taken into account are serious or prolonged illness, disability or bereavement. Documentation is normally required (eg. doctor's note). Information will be kept confidential and special circumstances will be discussed by a small committee of examiners.

### Missing exams due to illness or other unavoidable cause

If you miss an examination due to illness or some other unavoidable cause, please inform a member of staff, preferably the Programme Administrator or Programme Director, **as soon as possible**. The Programme Administrator should be given a doctor's note if the absence is due to illness and any possible documentary evidence supporting absences due to other reasons.

### Cheating and plagiarism

Cheating or attempts to cheat may lead to serious consequences, including the degree not being awarded. Unless you are explicitly informed otherwise, you are not allowed to take any written material into the examination. Please also see information on plagiarism in this handbook.

### Degree awarded

Master of Science in Molecular Medicine

This degree requires an accumulated total of 180 credits. Credits are acquired on successful completion of modules. The pass mark is 50% in all modules.

| | |
|---|---|
| Introduction to Molecular Medicine module | 15 credits |
| Data Interpretation module | 15 credits |
| Molecular Basis of Disease module | 15 credits |
| Core Laboratory Practicals module | 15 credits |
| Specialised module | 15 credits (x2) |
| Web-Based Data Mining & Analysis Project | 30 credits |
| Laboratory-Based Research Project | 60 credits |
| TOTAL | 180 credits |

Pass mark for the degree is 50%.

Merit mark for the degree is a mark of 60% or above averaged over all the Modules, and with 65% or above in the Laboratory-Based Research Project, no marks below 50%, no condoned marks, no re-sits, and all marks are based on first attempts.

Distinction mark for the degree is a mark of 70% or above averaged over all the Modules, and with 70% or above in the Laboratory-Based Research Project, no marks below 50%, no condoned marks, no re-sits, and all marks are based on first attempts.

Please note that if you owe money to the College or residences, or have unreturned library books, your degree results are likely to be withheld – so please make sure you have cleared any debts to College and returned any library books!

**Prizes**

The MSc Molecular Medicine Board of Examiners, at their discretion, will award the John and Elizabeth Sherris Graduate Student Prize to the student who they jointly feel consistently performed to the highest standard during the year. This will take into account exam marks and the excellence of the submitted laboratory research project report. Candidates would normally be expected to have achieved a Distinction in order to be considered for the prize.

**Graduation ceremony**

The graduation ceremony (for students who have completed their degree) normally takes place in the August/September of the year after you have completed your degree. Arrangements for this are made by the Registry and not the Division and you should receive your application form for places from the Registry which you must return by the specified date if you wish to attend. Transcripts are also provided by the Registry and not the Division.

## Plagiarism

You should be aware that UCL uses a sophisticated detection system (Turnitin®) to scan work for evidence of plagiarism. This system has access to billions of sources worldwide (websites, journals etc.) as well as work previously submitted to UCL and other universities. Most departments will need work to be submitted electronically as well as in paper form.

**What is plagiarism?**

Plagiarism is defined as the presentation of another person's thoughts or words or artefacts or software as though they were a student's own. Any quotation from the published or unpublished works of other persons must, therefore, be clearly identified as such by being placed inside quotation marks, and students should identify their sources as accurately and fully as possible. A series of short quotations from several different sources, if not clearly identified as such, constitutes plagiarism just as much as does a single unacknowledged long quotation from a single source. Equally, if a student summarises another person's ideas, judgements, figures, software or diagrams, a reference to that person in the text must be made and the work referred to must be included in the bibliography. Recourse to the services of 'ghost-writing' agencies (for example in the preparation of essays or reports) or of outside word-processing agencies which offer correction/improvement of English is strictly forbidden, and students who make use of the services of such agencies render themselves liable for an academic penalty.

Use of unacknowledged information downloaded from the internet also constitutes plagiarism. Where part of an examination consists of 'take away' papers, essays or other work written in a student's own time, or a coursework assessment, the work submitted must be the candidate's own.

It is also illicit to reproduce material which a student has used in other work/assessment for the course or programmes concerned. Students should be aware of this ‘self-plagiarism’. If in doubt, students should consult their Personal Tutor or another appropriate teacher.

Failure to observe any of the provisions of this policy or of approved departmental guidelines constitutes an examination offence under UCL and University Regulations. Examination offences will normally be treated as cheating or irregularities under the Regulations in respect of Examination Irregularities. Under these Regulations students found to have committed an offence may be excluded from all further examinations of UCL or the University or of both.

The expression of original ideas is considered intellectual property, and is protected by copyright laws, just like original inventions. Almost all forms of expression fall under copyright protection as long as they are recorded in some way (such as a book or a computer file).

**All of the following are considered plagiarism:**

- turning in someone else's work as your own
- copying words or ideas from someone else without giving credit
- failing to put a quotation in quotation marks
- giving incorrect information about the source of a quotation
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not (see Turnitin®s section on "fair use" rules)

**Believe it or not…**

Changing the words of an original source is not sufficient to prevent plagiarism. If you have retained the essential idea of an original source, and have not cited it, then no matter how drastically you may have altered its context or presentation, you have still plagiarized.
Most cases of plagiarism can be avoided, however, by citing sources. Simply acknowledging that certain material has been borrowed, and providing your audience with the information

necessary to find that source, is usually enough to prevent plagiarism. See the section on citation for more information on how to cite sources properly. See the UCL document on how you should cite your references and referencing styles.

**Did you know?**

The penalties for plagiarism can be surprisingly severe, ranging from failure of classes to expulsion from academic institutions!

- It doesn't matter if you intend to plagiarise or not! In the eyes of the law, and most publishers and academic institutions, any form of plagiarism is an offence that demands punitive action. Ignorance is never an excuse.
- It is even possible to plagiarise from yourself, if you are citing a work you submitted elsewhere. In most Universities this will result in a failing grade for the work, and possibly for the course!
- Plagiarism is almost always a symptom of other educational problems.

**Why do students plagiarise?**

There are two main types of plagiarism – intentional and unintentional. The list below is not exhaustive but contains the most commonly encountered reasons:

**On the whole unintentional:**
- Misunderstanding about citation
- Over-reliance on the original source material
- Following practices encouraged or accepted in previous educational experience or culture
- Not fully understanding when group work ceases and individual work begins
- Compensating for poor English language skills
- Poor note-taking practice

**On the whole intentional:**
- Leaving the work to the last minute and taking the easy option
- Needing to succeed
- Sheer panic
- Thinking that it is easy to get away with it
- Having problems with the workload
- Copying others is easier than original work
- Sensing that the teacher will not mind

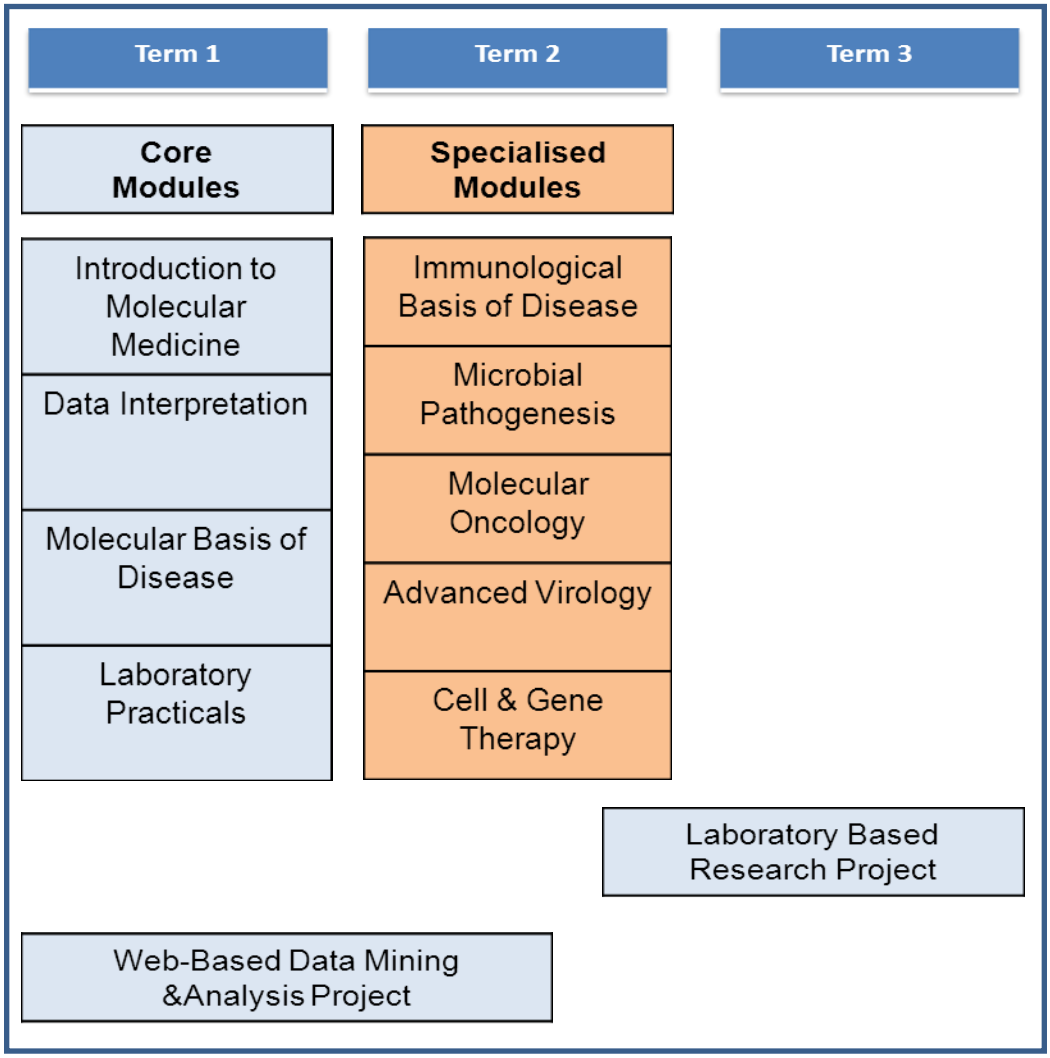
**What does this mean in practice for you, as a student at UCL?**

**It means you CAN'T do the following:**
- Cut and paste from electronic journals, websites or other sources to create a piece of work.
- Use someone else's work as your own.
- Recycle essays or practical work of other people or your own (this is self-plagiarism).
- Employ a professional ghostwriting firm or anyone else to produce work for you.
- Produce a piece of work based on someone else's ideas without citing them.

**So what CAN you do?**
- You can quote from sources providing you use quotation marks and cite the source (this includes websites). See www.ucl.ac.uk/Library/CitationPlagiarism.doc for how to cite references.
- You can paraphrase (take information from a piece of work and rewrite it in a new form) but you must still mention the source.
- In the case of joint practical or project work (or some group projects) individuals may use the same data, but the interpretation and conclusions derived from that data i.e. the ‘write-up’ must be their own.

## The Modules

The Molecular Medicine programme is modular in structure and consists of four Core Modules, two out of five Specialised Modules, a Web-Based Data Mining & Analysis Project and a Laboratory-Based Research Project to be studied over a period of 1 year.




**Degree Structure: A reminder**

| | |
|---|---|
| Introduction to Molecular Medicine module | 15 credits |
| Data Interpretation module | 15 credits |
| Molecular Basis of Disease module | 15 credits |
| Core Laboratory Practicals module | 15 credits |
| Specialised module | 15 credits |
| Specialised module | 15 credits |
| Web-Based Data Mining & Analysis Project | 30 credits |
| Laboratory-Based Research Project | 60 credits |
| TOTAL | 180 credits |

## Core Modules – Introduction to Molecular Medicine module (PATHG019)

| | |
|---|---|
| Module Organiser: | Professor Benny Chain |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | Tuesday 2nd October 2012 |
| End date: | Thursday 29th November 2012 |
| Content: | Lectures |
| Summative Assessment: | 1,500-2,000 word essay |
| Submission deadline: | 12:00 noon Friday 30th November 2012 |

The module provides an overview of the frontiers of cell biology and cell pathology research that underpin molecular medicine. The module is made up of a series of seminars (mostly 2 hours) by experts in selected topics of cell biology. Each lecture aims to provide:

i) A brief overview of the topic (but students are expected to be familiar with the basics of each topic as covered in a standard cell biology *textbook before the module)
ii) Details on one or more areas of active research interest, including appropriate description of the experimental technology required
iii) Discussion of how changes in the molecular processes in question are linked to disease

Given the scope of molecular cell biology, the module cannot be comprehensive. Nor is it feasible in a single seminar to exhaustively cover even a single topic (for example cell cycle). The objectives are to ensure all students have a sufficient basic knowledge of the major processes of the cell, to get a flavour of what are the outstanding questions driving research in the field at present, and how these could be tackled, and to begin to consider the intricate connection between cellular processes and disease. The topics covered have been chosen partly on their importance and partly to reflect the specific research strengths within UCL.

The topics which will be covered are: The actin cytoskeleton; Protein structure and folding; Cell cycle and cancer; Transcriptional regulation; Cell trafficking; Mitochondria; Signalling: the NFkB pathway; Signalling: Calcium pathway; Signalling 3: the EGFR family; The structure of the chromosome; Cell senescence; Lipid transport; Proteolysis; Cell death.

*A good reference textbook for this module is Molecular Biology of the Cell (2008) Alberts et al. 5th Edition.

**Summative Assessment:**

A 1,500-2,000 word essay on a given topic. The essay should be referenced with between 10-20 references, which are not included in the word limit.

## Core Modules – Data Interpretation module (PATHG017)

| | |
|---|---|
| Module Organiser: | Dr Milica Vukmanovic-Stejic |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | October |
| End date: | December |
| Content: | Tutorials |
| Summative Assessment: | Data handling coursework |
| Submission deadline: | 12:00 noon Friday 14th December 2012 |

This module consists of a series of tutorials in which you will be able to present and discuss primary research literature. Papers chosen will be aligned with the specialised modules and should provide a flavour of their content to help you in your module choice.

**Aims**:

To be able to critically evaluate scientific literature relevant to the field of molecular medicine

**Objectives**:

On completion you should:

- be able to read and understand primary literature related to various aspects of cellular and molecular biology
- be able to clearly present primary journal articles in a tutorial setting.
- understand selected modern molecular and cellular techniques used to investigate biological problems.
- appreciate the importance of appropriate statistical analysis of data.
- be aware of the importance of appropriate experimental controls and of the limitations of the scientific method.

**Summative Assessment**:

Data handling coursework consisting of a data interpretation exercise based upon a research paper, or a part of a research paper, provided to you.

## Core Modules – Molecular Basis of Disease module (PATHG016)

| | |
|---|---|
| Module Organiser: | Dr Mona Bajaj-Elliot |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | Monday 1st October 2012 |
| End date: | Monday 10th December 2012 |
| Content: | Lectures |
| Summative Assessment: | Written examination |
| Exam date and time: | 14:00-17:00 Monday 7th January 2013, location to be advised |

**Aims**:

The gain an understanding of the molecular basis of a number of different disease situations.

**Objectives**:

On completion you should be able to:

- Understand the pathological basis of a number of different diseases.
- Appreciate the various types of molecular and cellular defects that can occur in disease.
- Describe the major components of the immune response.
- Be familiar with the events that control the development of cancers.
- Discuss how laboratory findings can be translated into clinical trials.

**Summative Assessment**:

Three hour unseen written examination consisting of 3 sections each with equal weighting. In section A you have to answer one out of two data interpretation questions. Section B is short notes on six out of ten topics. Section C is one out of four essay questions. Past papers are available on the module Moodle site.

## Core Modules – Core Laboratory Practicals module (PATHG018)

| | |
|---|---|
| Module Organiser: | Professor Benny Chain |
| Deputy Module Organiser: | Dr Antony Antoniou |
| Start date: | Monday 15th October 2012 |
| End date: | Wednesday 21st November 2012 |
| Content: | Laboratory practicals |
| Formative Assessment: | One laboratory practical report |
| Summative Assessment: | Four laboratory practical reports |
| Submission Deadline: | 12:00 noon Tuesday 8th January 2013 |

A series of laboratory practicals covering core techniques in molecular medicine including the diagnosis and monitoring of clinical conditions.

**Aim**:

To gain a practical insight into some commonly used molecular, cellular and bioinformatics techniques

**Objectives**:

On completion you should be:

- Aware of good laboratory practice and able to work safely in the laboratory.
- Able to accurately pipette and make dilutions.
- Able to carry out a number of commonly employed techniques.
- Able to present experimental data in a written report.
- Able to analyse scientific data and interpret experimental findings.

**Formative Assessment (compulsory):**

You will write a report on the first practical you do and hand it in a few days after having done the practical. We will provide you with feedback that should help you prepare optimal reports for the summative assessment.

**Summative Assessment**:

The four subsequent laboratory practical reports

## The Specialised Modules

In the MSc Molecular Medicine you will choose **two** topics (from a choice of five) to study in more detail in specialised modules. As these specialised modules vary in structure (in both teaching delivery and assessment methods), students are strongly advised to discuss details of the specialised modules with the relevant module organisers. The two Specialised Modules should be selected and approved by the module organisers not later than the second week of November. All Specialised Modules run between January and March (second term of the academic year) and are timetabled to allow you to select any 2 out of the 5 on offer:

- **Microbial Pathogenesis**
- **Immunological Basis of Disease**
- **Advanced Virology**
- **Molecular Oncology**
- **Cell & Gene Therapy**

A note about the Cell and Gene therapy module (C&GT):

This module comprises components from two modules from the MSc in Gene Therapy run at the Institute of Child Health. These modules run on a different timetable system from the MSc in Molecular Medicine. As a result, there will be a small number of clashes between the C&GT module and the other specialised modules. (The number of clashes varies depending on module combinations but should not be more than four lectures in total.) All of the C&GT lectures will be videoed and placed on the Module Moodle site. When clashes occur, it is expected that students will attend the other specialised module lecture and review the C&GT lecture on line.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 09.00 – 11.00 | Microbial Pathogenesis | | Advanced Virology | Molecular Oncology | Immunological Basis of Disease |
| 11.00 – 13.00 | Advanced Virology | Molecular Oncology | Immunological Basis of Disease | Microbial Pathogenesis | |
| | Cell & Gene Therapy | | | | |

Please note that there may sometimes be additional sessions timetabled in the **afternoon**. The total number of hours of contact time (lectures, tutorials, etc) and of self-directed learning is similar for each of the five modules (i.e. the Immunological Basis of Disease does not utilise all of the allocated slots every week). Please consult individual timetables for each module.

**Summative Assessment**

The Specialised Modules are assessed by submission of essays and/or laboratory reports and/or oral presentations and/or unseen written examination at dates specified by the respective Specialised Module organisers.

## Specialised Module – Microbial Pathogenesis (PATHG013)

| | |
|---|---|
| Module Organiser: | Dr Bambos Charalambous |
| Deputy Module Organiser: | Dr Tim McHugh |
| Start date: | Monday 7th January 2013 |
| End Date: | Thursday 14th March 2013 |
| Content: | Lectures and student presentations |
| Formative assessment: | Oral presentation based on a library project (compulsory) |
| Summative assessment: | A library project (70%) and paper critique (30%) |

**Aims:**

To provide an overview of how the key prokaryotic and eukaryotic pathogens cause disease in man. Reflecting the expertise within UCL examples of well defined host-pathogen interactions will be studied and the evidence for microbial aetiologies of diseases whose cause is still uncertain will be explored.

**Objectives:**

The student will be able to:

- Describe the major bacterial, fungal and parasitic pathogens.
- Describe the structure and organisation of each of the pathogen types.
- Describe the molecular mechanisms by which microbial pathogens invade and cause disease.
- Explain the molecular pathogenesis of examples of acute and chronic infectious diseases including tuberculosis, malaria, meningitis, gastrointestinal and respiratory infections.
- Provide an overview of the techniques for molecular diagnosis of infection and the tools for molecular epidemiology of infection.

**Content:**

Lectures 40 hours
Oral presentations 4 hours

**Shared teaching:**

Parts of this module are shared with students on the INIM3008 Microbial Pathogenesis 3rd year undergraduate course.

## Specialised Module - Immunological Basis of Disease (PATHG014)

| | |
|---|---|
| Module Organiser: | Dr Brian de Souza |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | Tuesday 8th January 2013 |
| Content: | Lectures, tutorials and student presentations |
| Summative Assessment: | 1 oral presentation with 1 page handout<br>Written examinations: 3 essay questions and 2 data Interpretation questions |

**Aims:**

To allow the student to explore the cellular and molecular basis of diseases and in particular where the immune system acts inappropriately to foreign and/or self antigens.

**Objectives:**

On completion of the module you should understand the immunological basis of:

- Autoimmune diseases
- Allergies
- Transplantation

**Contents:**

Lectures 45 hours.
Tutorials and oral presentations 10 hours.

**Shared Teaching:**

Some sessions of this teaching series are shared with medical students undertaking an integrated BSc.

## Specialised Module - Molecular Oncology (PATHG020)

| | |
|---|---|
| Module Organiser: | Professor John Hartley |
| Deputy Module Organiser: | Dr Emma Morris |
| Start date: | Tuesday 8th January 2013 |
| Content: | Lectures, tutorial, demonstration and journal club |
| Summative Assessment: | 2 journal club presentations and essay.<br>Written examination: 3 essay questions and 2 problem solving questions |

**Aims:**

To provide an understanding of the molecular basis of oncology and to introduce the student to the relationship between molecular, epidemiological and clinical aspects of cancer.

**Objectives:**

On completion, you should understand:

- What cancer is and how it is caused.
- The main principles of cancer biology, cancer genetics and tumour immunology.
- The basic principles of the molecular pathology of cancer with a more detailed knowledge of leukaemia, lymphoma, colon, breast and ovarian cancers.
- The principles and problems of modern cancer treatment.
- Novel approaches to cancer therapy.

**Contents:**

Lectures: 40 hours of lectures.
Tutorial, demonstration, journal club 20 hours.

**Shared teaching:**

Some sessions of this teaching series are shared with BSc and MBBS students.

## Specialised Module - Advanced Virology (PATHG015)

| | |
|---|---|
| Module Organiser: | Dr Richard Milne |
| Deputy Module Organiser: | TBC |
| Start date: | Monday 7th January 2013 |
| Content: | Lectures and tutorials |
| Summative Assessment: | In-course assessment: by submission of one data-handling exercise and one oral "journal club" presentation |
| Summative Assessment: | Written examination: 1 compulsory short answer question (write short notes on 3/6 topics); 3 long answer essay questions chosen from 6<br>All four questions have equal weighting. |

The module is centred on the idea that an understanding of basic virology is essential for understanding viral disease.

The module includes two types of lectures: those covering broad concepts: virus replication, virus entry, immune evasion, virus assembly; and those covering clinically important viruses or virus families.

Lectures usually include descriptions of primary experimental data to reinforce the link between basic and clinical virology. Tutorials are used for more detailed discussion of key issues.

By the end of the module, students will understand the principles of virus replication and will have a broad knowledge of individual virus infections, their treatment and prevention.

The core of the module is shared with other MSc and with Integrated BSc students. The MSc module includes an additional Advanced Virology component comprising sessions timetabled throughout the module that are set aside for detailed discussion of current issues in virology. These discussions may be either topic based, or focussed on a recent paper or series of papers. The assessed journal presentation will form an integral part of the Advanced Virology Component. The aim of these sessions is to expose students to the state of the art in areas of current interest in virology.

**Module Contents:**

Lectures: 36 hours of lecture/tutorial

**Shared teaching:**

Taught sessions of this module are shared with iBSc, BSc and MSc students on other programmes.

## Specialised Module - Cell and Gene Therapy: Molecular and Clinical Aspects (CHLDGG05)

| | |
|---|---|
| Module Organiser: | Dr Steven Howe |
| Deputy Module Organiser: | Dr Richard Milne |
| Start date: | 14th January 2013 |
| Content: | Lectures and tutorials |
| Summative Assessment: | In-course assessment: Comprehension and presentation of a paper (40% of final mark)<br>Written examination: Unseen short answer examination. (60% of final mark) |

The aim of this module is to teach the students the basic scientific concepts which underlie the development and application of gene therapy. It will introduce aspects of genetics, cell biology, virology, inherited diseases and immunology.

Lectures will describe the theory of gene therapy and the tools that have been developed, and those which are in development. Examples of clinical application will be given, explaining historic, current and future cell and gene therapy treatment strategies. It will introduce concepts in clinical and basic research, clinical trials and methodology.
Alongside the science, ethical, regulatory and monitoring issues that are required for clinical studies will be discussed.

The module is designed to deliver a broad overview of gene and cell therapy, and it is expected that students will to invest time to self-study outside of class meetings to discover areas of interest in greater detail.

This module will be delivered mostly as a series of lectures by ICH/UCL staff with some external experts. There will be the opportunity for students to attend additional ICH/UCL research seminars

**Module Contents:**

Lectures: 30 hours of lecture/tutorial

## Assessment Guidelines for Taught Modules

### Marks and grades

| | | |
|---|---|---|
| <40% | Grade D | Fail |
| 40-49% | Grade C | *Fail |
| 50-59% | Grade B | Pass |
| 60-69% | Grade A | Pass |
| => 70% | Grade A+ | Pass |

*The Board of Examiners can condone (i.e. allow as a pass) up to 25% of the programme at 40-49% as long as the overall mark is 50% or more.

### 1. Essays for coursework and unseen examination

(Note that these are generic guidelines: not all essays involve a literature survey, referencing or original research)

**<40% Grade D**
Clear lack of understanding
Major errors of fact and no grasp of key concepts
Major omissions
No discernible essay structure
Inadequate references
Very poor discussion of future research directions

**40-49% Grade C**
Several errors of fact and no grasp of key concepts
Several omissions
Poorly discernible essay structure
Minimal discussion
Inadequate references
Poor coverage of future research directions

**50-59% Grade B**
Some errors of fact and limited grasp of key concepts
Some omissions
Adequately structured
Reasonable referencing
Reasonable discussion of future research directions

**60-69% Grade A**
Few factual errors
Minimal misunderstanding of key concepts
Few omissions
Some attempt at critical analysis/appraisal of subject
Less well structured and researched than A+ as reflected in the literature survey and discussion
Future research directions showing less insight than A+

**=>70% Grade A+**
No factual errors/omissions
Clear understanding of key concepts
Balanced and coherent argument
Refined and thoughtful critical analysis/appraisal of subject
Clarity of ideas and writing
Excellent structure: introduces and then leads the reader through the subject

Up-to-date literature survey incorporated in the text and reflected as a discursive element in the conclusions Thoughtful outline of possible future directions together with their scientific and socio-economic implications. Well researched.

**2. Data analysis: unseen examinations, coursework, laboratory reports**

**<40% Grade D**
Clear lack of understanding
Numerous major and minor omissions and errors
Inadequate data content
Very poor presentation

**40-49% Grade C**
Numerous major and minor omissions and errors
Inadequate data content
Poor understanding of data
Little analysis
Confusing presentation

**50-59% Grade B**
Some major and/or minor omissions and errors
Adequate presentation of information
Reasonable understanding of data
Reasonable analysis

**60-69% Grade A**
Few omissions and errors
Good presentation of information
Good understanding of data
Some attempt at critical analysis/appraisal of subject

**=>70% Grade A+**
No major omissions or errors
Precise and clear presentation
Excellent structure
Thorough understanding of the scientific principles
Original approach to analysis
A comprehensive and critical coverage
Logical deduction and conclusion

**3. Oral presentations**

Clarity of presentation
Contents of presentation
Use of visual aids
Depth of understanding of the topic presented
Critical analysis /appraisal of the subject
Response to questions

(Note that more detailed and specific guidance will be provided as appropriate for each assessment.)

## Web-Based Data Mining & Analysis Project (PATHG004)

| | |
|---|---|
| Module Organiser: | Dr Brian de Souza |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | November 2012 |
| Deadline for submission: | 12:00 noon Friday 1st March 2013 |
| Content: | Student research |
| Assessment: | Submission of project |

**Aim**:
To encourage an appreciation of the rapid developments that are taking place in the molecular biomedical field by surveying a topic of current interest.

**Objectives:**
On completion the student will be able to:

Undertake a survey of the current original literature
Understand how to present the survey in a logical and acceptable manner
Show an understanding of the significance of the literature survey

**The report should be a critical discussion of the original literature and should extract and compare relevant data from the literature or suitable databases to demonstrate an understanding of the biological aspects of the stated scientific problem. Ideally, the data extracted from publications should be originally analysed for making comparisons and for illustrating specific aspects of the findings**. The report should also include suggestions for further advancement of the topic.

**General Information:**

This project is undertaken during four months of the MSc Molecular Medicine programme from November 2012 – February 2013. It is your responsibility, in consultation with your supervisor and the module organiser, to organise your time so that you are able to complete the project before the deadline of 12:00 noon Friday 1st March 2013. The module organiser (Dr Brian de Souza) will provide a list of potential supervisors and topics before the module commences, and should be informed when you have arranged the project with the supervisor. A one page overview of the intended coverage should then be provided for the supervisor, with a copy given to the module organiser after the initial discussion with the project supervisor. This overview should form the basis for further discussions with your supervisor prior to commencing work on the project. It is expected that the student and supervisor will then meet 2-3 times during the writing process in order to assess progress. The supervisor should then check your final draft prior to submission.

With regard to writing up your project, the content must be your own work. The supervisor offers guidance as necessary and should read the work in its final format before it is submitted. It is advisable, of course, for the supervisor to see earlier drafts, but the student is ultimately responsible.

The project must be type written. Computer terminals are available in the cluster room in the Cruciform Building. The project should follow the style of reviews in the journal *Immunity* (freely available online from UCL computers [via the library website]) and be written in 12 point font with double line spacing. All pages must be numbered. **The maximum word count is 10,000 words**, excluding tables of contents, abstract, legends to figures, tables and references. A word count must be included.

Examples of previous projects which have been regarded as particularly well presented are available on the Module Moodle page (www.ucl.ac.uk/moodle). The examiners follow the UCL guidelines on plagiarism: published or unpublished work of other persons must be clearly identified. (See notes on plagiarism elsewhere in this handbook.)

**The deadline for submission is 12 noon on Friday 1st March 2013**. Two printed copies of the projects should be handed in to the Programme Administrator, Ms Lauren Collins, Room 1.3.14, 1st floor, Cruciform Building, Gower Street, plus an identical electronic version uploaded on the PATHG004 Moodle site before the deadline.

**Late submission**
Standard UCL penalties (described elsewhere in this handbook) will apply.

**Assessment guidelines:**

The dissertation will be assessed on the following criteria:

content
critical discussion of the originally analysed and presented data
suggested further experiments or omitted experiments
**adherence to the requested format**

# Laboratory-Based Research Project Module (PATHG099)

| | |
|---|---|
| Module Organiser: | Dr Richard Milne |
| Deputy Module Organiser: | Professor Peter Delves |
| Start date: | Monday 15th April 2013 |
| End date | Friday 5th July 2013 |
| Assessment: | Project report |
| Submission Deadline | 12:00 noon Thursday 11th July 2013 |
| Oral examination: | Monday 22nd July 2013 |

**Aims:**

To enhance laboratory skills.
To develop the ability to interpret and critically evaluate data.
To present one's own scientific data as a research manuscript.

**Objectives:**

On completion, students will have acquired the core skills necessary to undertake a research project and write up the results as a research manuscript. They will be familiar with experimental design, hypothesis generation, data presentation and analysis. More broadly, they will have gained insight into how research laboratories function and how research is conducted.

**About the project:**

Arranging a project is the responsibility of the student. From the start of the Programme students will be encouraged to engage actively in the selection of their research topic. A list of some potential supervisors and projects will be provided but it is expected that most students will make their own arrangements under the guidance of the module organiser. Early contact with prospective project supervisors to secure lab space is encouraged. You may approach potential supervisors from within UCL or from another institution (subject to approval from the Module organiser). The module organiser should be kept informed by e.mail of your progress in arranging a project. A short abstract/outline (one page of A4) must be submitted by the end of the first week of the project.

It is expected that the student and supervisor will meet at regular intervals during the project in order to assess progress. The content of the project report must be your own work. The supervisor offers guidance as necessary and must read the work in its final format before it is submitted. It is advisable, of course, for the supervisor to see earlier drafts, but the student is ultimately responsible.

**Guidelines for the project report:**

The project must be presented in 10 point ARIAL font with double line spacing. All pages must be numbered starting with the title page as page 1. **The report must not exceed 6500 words**, excluding the title page, summary, figure legends, tables and references. A word count for the summary and main body of the text must be included.

Examples of projects which have been regarded as particularly well presented are available in the Divisional Teaching Administrators office for you to examine during the course of the year. (Note that these may have been written following different presentation guidelines.)

The examiners follow the UCL guidelines on plagiarism: published or unpublished work of other persons must be clearly identified. (See notes on plagiarism elsewhere in this

handbook).

The project report should contain the following sections:

**Title page:** lists the project title, your name, your supervisors name, the project and summary word counts.

**Summary**. (200 word maximum) This must state the aims of the work, including sufficient background information for the reader to understand them. The key results should then be described, placing them in a broad context and emphasising their significance.

**Introduction:** containing a description of the problem under investigation and placing it in context with a brief survey of existing literature on the subject.

**Results:** presents and collates the data as well as appropriate analysis of the data in the form of display items (figures and tables) with accompanying text. A maximum of 7 display items are permitted.

**Figures and Tables:** Each Figure should be on a separate page with its corresponding figure legend below. This legend should include the figure number followed by a short title and a brief explanation of the experiment that provides sufficient detail for the reader to understand the data without reference to the text. Methods described in detail in the Experimental procedures section should not be repeated in the legend. Symbols used in the figure must be explained. Each legend must specify the number of times each experiment was independently performed and, if appropriate, the statistical tests used. Tables do not require legends, although these can be provided if necessary for clarity. Footnotes may be used to provide detail about calculations used to generate the data shown, units used etc.

**Discussion:** Provides a critical analysis, interpretation and explanation of the results and places them in a broader context. Addresses questions that are raised and suggests how they might be answered. Enriches, but does not duplicate the Introduction and the Results sections.

**Experimental procedures:** describes the materials and methods used in the project in sufficient detail for the reader to understand how the work was carried out.

**Acknowledgements:** Any contributions by others should be explicitly acknowledged in this section.

**References:** References should be cited in the text thus: when there is only one author (Milne, 2010), when there are two authors (Milne and Delves, 2010) when there are three or more authors (Milne *et al*., 2010).

Full details of each cited reference should be provided in a list (alphabetical by surname of first author) placed after the experimental procedures section. All authors of a paper should be included unless there are more than 10 in which case list the first 10 and then say "*et al*.". Each reference should be listed using the following style:

Milne, RSB, Smith, JH, Brown, RT and Delves P. (2010). Studies of the replication of herpesviruses. *Journal of Virology* **74***;* 2056-2060.

**Time allowed:**

12 weeks (at 40 hours per week) for work in the laboratory, with an extra 13th week for completing the final draft for submission.

Start date for laboratory work: Monday 15th April 2013

End date for laboratory work: Friday 5th July 2013

Deadline for submission: Thursday 11th July 2013, 12:00 noon.

Oral examination date: Monday 22nd July 2013

The time scale after project submission is purposefully very tight in order to minimise the time between your completion of the project and the oral examination.

**Submission:**

**YOU MUST SUBMIT FOUR BOUND COPIES AND ONE ELECTRONIC COPY OF YOUR PROJECT**.

**The printed copies** should be handed in to the Programme Administrator, Ms Lauren Collins

Room 1.3.14,
First Floor, Cruciform Building
Gower Street, London, WC1E 6BT

Tel: 020 3108 2116 (internal: 52116)

You cannot access the office directly as it is behind a card access security door. Please use the phone on the first floor landing to call Lauren (ext. 52116) when you deliver your project.

**The electronic copy** must be uploaded on the PATHG099 Moodle site before the deadline.

**Assessment:**

**Weighting**

The mark for the written report constitutes 90% of the final mark and will be assessed on the following:

The mark for the oral examination constitutes 10% of the final mark

**Report marking criteria**

**<40%. Grade D**
inadequate and inappropriate information
numerous major and minor omissions and errors
incomprehensible presentation
inadequate discussion on information presented
references not cited in the text
incomplete reference list

**40-49%. Grade C**
inadequate literature survey
major and/or minor omissions and errors
poor and confusing presentation
inadequate discussion of data
references not cited in the text
incomplete reference list

**50-59%. Grade B**
adequate literature survey
some major omissions and errors
informative to coherent presentation

adequate discussion of the data presented
some suggestions of future directions

**60-69%. Grade A**
adequate literature survey
some minor omissions and errors
informative to coherent presentation
good discussion of the data presented
some suggestions of future directions

**=>70%. Grade A+**
thorough literature survey with no major omissions and errors
comprehensive and logical presentation
critical discussion and deduction
intelligent suggestion of future directions

**Oral examination:**

You will be examined on your project by internal and external examiners for 15 minutes. You will be expected to give a brief summary of your project work to encapsulate the research questions and major findings and to be able to answer detailed questions about the background, scientific and methodological rationale, interpretation of results and future work relating to your project. The discussion may broaden to cover any aspect of the Programme content.

**Late submission:**

If a Laboratory-Based Research Project is not submitted on time and there are no approved extenuating circumstances, the student will be deemed not to have completed the MSc programme. In such circumstances, and at the discretion of the Programme Director, the project may be eligible for resubmission in the next academic session. This would require the student to return to London for oral examination the next academic year. Alternatively the student can elect to be awarded the Diploma in Molecular Medicine which requires an accumulated total of 120 credits (Introductory Module, Data Interpretation Module, Molecular Basis of Disease Module, Core Laboratory Practicals Module, 2 Specialised Modules and Library-Based Research Project).

**Failing a practical project:**

If a student fails to reach the pass mark, depending on how badly she/he fails and why, the Board of Examiners will make a decision as to whether the student must resubmit the project next academic session with or without the need for further experimental work or make minor amendments to the write-up within one month.

## Programme Evaluation

The quality of the MSc Molecular Medicine Programme is monitored by the following procedures:

### Board of Examiners 2012 – 2013

Dr Richard Milne **(Chair)**
Professor Peter Delves (**Deputy Chair)**
Professor Paddy Tighe – University of Nottingham (**External Examiner)**
Dr Anthony Antoniou
Professor Benny Chain
Dr Bambos Charalambous
Dr Brian de Souza
Professor John Hartley
Professor Timothy McHugh
Dr Milica Vukmanovic-Stejic
Dr Steven Howe

### MSc Programme Working Committee 2012 – 2013

Dr Richard Milne **(Chair)**
Professor Peter Delves (**Deputy Chair)**
Dr Anthony Antoniou
Professor Benny Chain
Dr Bambos Charalambous
Dr Brian de Souza
Professor John Hartley
Professor Timothy McHugh
Dr Milica Vukmanovic-Stejic
Dr Howe, Steven

### Student-Staff Consultative Committee

Teaching staff meet all students once a year and meet with two class representatives twice during the academic year to discuss issues related to the programme. Matters raised are reported to the programme working committee where appropriate decisions are made and acted upon.

### Faculty Post-Graduate Research Committee

The Programme Director is responsible for liaising with and reporting to the Faculty Graduate and Research Committee on matters arising from the MSc Molecular Medicine Programme, Board of Examiners, Programme Working Committee and Student-Staff Consultative Committee.

### Student Questionnaires

Anonymous questionnaires are supplied to students for each module. All replies are filed in the Division of Infection & Immunity for inspection. A summary of the response is prepared by the Programme Organiser and reported to the Programme Working Committee. The teaching staff take your feedback very seriously and changes are often made in response to your views.

### Students' career development

The Programme Director is keen to maintain contact with previous students to record their career development and to assess the success of the programme in attaining its objectives. After finishing the Programme students follow a variety of career paths, some common ones are: PhD student, Medical student, Clinical scientist, Research scientist, Dental student.

## Other Important Information

### Graduate School

www.ucl.ac.uk/gradschool - contains all you need to know.

### Bookshops

The main University bookshop is Waterstones, on the corner of Malet Street and Torrington Place. Also nearby is Foyles on Charing Cross Road. UCL students can also have access to many outside Libraries, including Senate House, Welcome Library, British Library, Imperial College London and King's College London.

### UCL Shop

The UCL Shop is located in the basement of the Wilkins Building. It stocks a range of stationary, computer supplies as well as UCL branded clothing and souvenirs.

### Career Services

The University provides a Careers Service and a Careers Resource Library. The Careers Office is on the 4th floor of the ULU building, Malet Street (Tel: 020 7866 3600). There are occasional careers exhibitions through the year.
Further information is available via the website: www.ucl.ac.uk/careers

### Emergencies

Dial 222 on any telephone in UCL buildings for assistance in any emergency (fire, accident, assault, intruders, etc).

### Fire

You should familiarise yourself with the instructions contained in the various Fire Notices and location of the Fire Escapes in the building.

### Medical Services

UCL runs a Health Centre for students registered at UCL, which includes an open clinic, a contraceptive clinic, dental unit, ophthalmic and nursing services. They provide a GP service for students at UCL Halls of Residence and for students who have no GP in London. The Health Centre is at 3 Gower Place, WC1. Tel: internal ext. 32803/37057 medical or 37186 dental. More details are available on the practice website:

www.gowerplacepractice.nhs.uk

The nearest Accident & Emergency department to UCL is located at University College London Hospital. The A&E department can be accessed from Grafton Way or Euston Road.

### Counselling Service

Some students experience problems at university that they feel unable to deal with on their own. Talking to a counsellor can enable you to develop a clearer understanding of your

problems and to explore more effective ways of dealing with them. You can find information on UCL's confidential student counselling service at:

www.ucl.ac.uk/student-psychological-services/

**Health and Safety**

You will spend a lot of time in laboratories. It is your responsibility to ensure that you work safely in the laboratory. If at any time you are uncertain about what you should be doing: STOP and seek advice. You will receive a safety induction at the start of the PATHG018 Laboratory Practicals and you should also study the safety instructions in the lab manual.

You should liaise with your PATHG099 lab project supervisor to ensure that you receive an appropriate local safety induction before commencing work.

**Identification**

When accessing the various UCL buildings you may be asked for ID. At UCL, enrolled students get issued with an ID card. You can also use your library card or student union card. You will also need to show your card for entrance to the UCL Union facilities after 7.00 pm.

**Skills Development**

The UCL Graduate School runs various programmes for graduate students in skills development which you might want to take part in, time permitting.

http://courses.grad.ucl.ac.uk/

**Special Needs**

UCL provides a Disability Coordinator:

http://www.ucl.ac.uk/disability/

The Dean of Students can advise students on legal, dispute and hardship matters relating to the University. There is also a tutor for women students. You should enquire at the Registry if you wish to contact any of these services.

**ULU/UCLU**

The University of London Union (ULU) building is in Malet Street. University College London Union (UCLU) is in Gordon Street. These are open to all students and contain eating, drinking and sports facilities, a Union shop, opticians, copyshop and various Advisory Offices. You will automatically be a member of the Union, where you can join sports, hobby and political societies if you wish.

**UCL Cultural Consultation Service**

The UCL CCS aims to enhance learning and teaching outcomes for students and staff facing cross-cultural and social conflicts.

http://www.ucl.ac.uk/ccs/