Please read this document alongside the School of Physical Sciences and Computing “Student Guide to Assessment” – this is available in the Course Section of Blackboard.

All course materials, including lecture notes and other additional materials related to your course and provided to you, whether electronically or in hard copy, as part of your study, are the property of (or licensed to) UCLan and MUST not be distributed, sold, published, made available to others or copied other than for your personal study use unless you have gained written permission to do so from the Dean of School. This applies to the materials in their entirety and to any part of the materials.

If there is any conflict between the regulations mentioned in this booklet and the UCLan Academic Regulations then the latter represent the definitive information.
UNIVERSITY OF CENTRAL LANCASHIRE

MISSION STATEMENT

WE PROMOTE ACCESS TO EXCELLENCE ENABLING YOU TO DEVELOP YOUR POTENTIAL
We value and practise equality of opportunity, transparency and tolerance
We strive for excellence in all we do: locally regionally, nationally and internationally
We work in partnership with business, the community and other educators
We encourage and promote research innovation and creativity
Student Charter

The Student Charter has been developed by the University and the Students’ Union so that students gain the maximum from their UCLan experience. It is a two-way commitment or 'contract' between the University and each individual student. It acts as a means of establishing in black and white what students can expect from the University and the Union in terms of support, and in return what we expect from our students. Read the full Charter here

Supporting Diversity at UCLan

UCLan recognises and values individual difference and has a public duty to promote equality and remove discrimination in relation to race, gender, disability, religion or belief, sexual orientation and age. During your time at UCLan we expect you to be able to:

- Experience "an integrated community based on mutual respect and tolerance where all staff and students can feel safe, valued and supported."
- Contribute to creating a positive environment where discriminatory practices and discrimination no longer happen.

Please review the UCLan Equality and Diversity Policy for further information.

Students with Disabilities

If you have a disability that may affect your studies, please either contact the Disability Advisory Service - disability@uclan.ac.uk - or let one of the course team know as soon as possible. With your agreement information will be passed on to the Disability Advisory Service. The University will make reasonable adjustments to accommodate your needs and to provide appropriate support for you to complete your study successfully. Where necessary, you will be asked for evidence to help identify appropriate adjustments.
Student Check List

You must read this handbook and check off the Induction Week tasks once they are completed. Check off items on the lower list once you understand and acknowledge your responsibilities. If you have any queries please see your personal tutor.

In Induction Week I have:

Confirmed that I have enrolled with the university.

My student number is:

Registered to use the library and computer system.

Read this course handbook.

Let the course leader (if I wish to) know of any disability which may affect my studies to ensure I receive appropriate support.

I understand that I am responsible for:

Making sure my programme of study is the correct one to take me to my target award.

Notifying the University immediately if I change my local or home address.

Notifying the campus admin hub (section 1.1.7) of any absence and providing a medical note.

Reading and following health and safety regulations.

Making certain that I know, and keep to, assessment deadlines.
Handing in assignments in accordance with the guidelines in the Student Guide to Assessment i.e. through Blackboard and Turnitin unless advised otherwise.

I must maintain contact with my personal tutor who is:

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
</tr>
<tr>
<td>Room Number:</td>
</tr>
<tr>
<td>Telephone Number:</td>
</tr>
</tbody>
</table>
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1. **Introduction**

1.1 **The School of Physical Sciences and Computing**

The School of Physical Sciences and Computing has the role of enhancing knowledge, understanding and application of chemical science, physical and computational science by teaching, research and scholarship. The Section of Chemistry under Chemical Science is unique due to its existence in an interdisciplinary school.

Chemistry provides important understanding of our world and how it works. Through an understanding of the chemistry of materials we can design and manufacture drugs to fight diseases; computer chips to enhance communication; pesticides to protect our health and crops; fertilisers to grow abundant food; fuels for transportation; fibres to provide comfort and variety in clothes; plastics to package food and replace worn-out body parts; and much, much more.

Chemistry also helps us to comprehend the nature of our environment, our universe, and ourselves. It is pivotal in our understanding of the treatment of diseases such as cancer and AIDS. It provides essential information about issues such as global warming, ozone depletion and acid rain.

Inorganic, Organic, Physical and Analytical Chemistry are the key areas and have been known for decades. Now days each area under the chemistry has been explored as a multidisciplinary subjects under the several areas such as Forensic, Nanotechnology, Nano-biotechnology, Biotechnology, Materials, Polymers etc.

Chemistry division of the school has staff members with outstanding academic profile (teaching / research) in the area of chemical sciences with Analytical, Physical, Organic and Inorganic chemistry expertise with multidisciplinary research track record. In addition to, it has got excellent state of the art facilities with a range of modern well-equipped laboratories in chemical and forensic sciences and located in a brand new building (J. B. Firth) due to the University’s recent strategic investment (£12M). A central analytical suite services the laboratories, which means that students will have access to most modern analytical techniques to support practical investigations. More specialised equipment for research and project work are available through the Centre for Materials Science. The School also has strong links with several Chemical Industries in UK and overseas,

With the above, MSc Chemistry in Synthetic Organic Chemistry is unique due to it’s existence in a multidisciplinary school with excellent teaching / research staff, know-how and resources.
1.1.1 Career Opportunities

All our courses have been designed to ensure that you have the relevant knowledge and skills based to be well placed to secure employment and pursue a career in your chosen field. However, your University experience is not only about achieving your chosen award, it is also about developing as a person and realising your potential. We want you to gain the skills and attitudes that will help you to achieve your goals and aspirations.

Your employment potential with synthetic organic chemistry postgraduate degree should be very high due to the demand of graduates with skills in industries dealing with organic chemistry especially drugs, pharmaceutical, and medicinal chemistry.

Your future is important to us, so to make sure that you achieve your full potential whilst at university and beyond, your course has been designed with employability learning integrated into it at every level. This is not extra to your degree, but an important part of it which will help you to show future employers just how valuable your degree is. These “Employability Essentials” take you on a journey of development that will help you to write your own personal story of your time at university:

- To begin with, you will explore your identity, your likes and dislikes, the things that are important to you and what you want to get out of life.
- You will investigate a range of options including jobs and work experience and self-employment,
- You will then be ready to learn how to successfully tackle the recruitment process.

You will be able to record your journey using Pebblepad, the university’s e-portfolio system, which will leave you with a permanent record of all the fantastic things you have achieved during your time at UCLan. It’s your future: take charge of it!

Careers offers a range of support for you including:

- career and employability advice and guidance appointments
- support to find work placements, internships, voluntary opportunities, part-time employment and live projects
- workshops, seminars, modules, certificates and events to develop your skills

Daily drop in service available from 10.30am-3pm, for CV checks and initial careers information. For more information come along and visit the team (in Foster building near the main entrance) or access our careers and employability resources via the Student Portal.
1.1.2 Communication

The University expects you to use your UCLan email address and check daily for messages from staff. If you send us email messages from other addresses they risk being filtered out as potential spam and discarded unread. Staff aim to reply to emails within one working day.

1.1.3 Supporting Diversity

UCLan recognises and values individual difference and has a public duty to promote equality and remove discrimination in relation to race, gender, disability, religion or belief, sexual orientation and age. During your time at UCLan we expect you to be able to:

- Experience "an integrated community based on mutual respect and tolerance where all staff and students can feel safe, valued and supported."

- Contribute to creating a positive environment where discriminatory practices and discrimination no longer happen.

Please review the UCLan Equality and Diversity Policy for further information.

1.1.4 External Examiner

The University has appointed an External Examiner to your course who helps to ensure that the standards of your course are comparable to those provided at other higher education institutions in the UK. If you wish to make contact with your External Examiner, you should do this through your Course Leader and not directly. You can access the external examiners report via the Course site on Blackboard. The School will also send a sample of student coursework to the external examiner(s) for external moderation purposes, once it has been marked and internally moderated by the course tutors. The sample will include work awarded the highest and lowest marks and awarded marks in the middle range.

The current External Examiners for Chemistry:

1. Dr. Raymond Leslie, Senior Lecturer in Organic Chemistry, College of Arts and Science, School of Science & Technology, Nottingham Trent University, Nottingham, NG1 4BU, United Kingdom
2. Dr. Phil Riby, School of Pharmacy and Biomolecular Sciences, Faculty of Science, Liverpool John Moores University, Liverpool, L3 2AJ, United Kingdom
3. Dr. John Liggat, Reader, Department of Pure & Applied Chemistry, University of Strathclyde, Glasgow, G1 1XL, United Kingdom

1.1.5 Course Team

The course team is responsible for the academic delivery of the programme. The members of the course team are:
<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Academic profile</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Tapas Sen</td>
<td>Course Leader and module tutor FZ4006</td>
<td>Tapas is a senior lecturer in Inorganic and Materials Chemistry. He received his PhD in Materials Chemistry from the premier research institution, National Chemical Laboratory, Pune, India. He later received his PGCHE from the University of Kent and currently is a Fellow of the Higher Education Academy (FHEA) in UK. He has been at UCLan for nearly 6 years and teaches both Inorganic and Materials Chemistry.</td>
<td><a href="mailto:tsen@uclan.ac.uk">tsen@uclan.ac.uk</a> Ext. 4371 JBF005</td>
</tr>
<tr>
<td>Dr. Robert Smith</td>
<td>Module tutor FZ4605 FZ4606</td>
<td>Rob is a senior lecturer in Organic / Medicinal Chemistry. took his first degree at the University of Central Lancashire and completed his Ph.D on the design and synthesis of novel metallolporphyrin catalysts at the University of Surrey. He then then took up a postdoctoral position at Nottingham Trent University, where he worked for Prof. James Davis and Dr Ray Leslie, on the synthesis of novel electrochemical sensors and the synthesis of antimicrobial agents. After three years in Nottingham, he moved back to the University of Central Lancashire in 2008. Much of the work carried out in the Smith group focuses on the design and development of molecules for healthcare applications. Dr Smith is also Chairman of the Lancaster and District section of the Royal Society of Chemistry.</td>
<td><a href="mailto:rbsmith@uclan.ac.uk">rbsmith@uclan.ac.uk</a> Ext.4384 JBF006</td>
</tr>
<tr>
<td>New member</td>
<td>Teaching staff FZ4603 FZ4605</td>
<td>Will be updated later</td>
<td>Will be updated later</td>
</tr>
<tr>
<td>Prof. Richard Hull</td>
<td>Teaching staff FZ4603</td>
<td>Richard is the Professor of Chemistry and Fire Science at the University of Central Lancashire (UCLan). His expertise is in the decomposition and flammability of plastic materials. He is internationally leading in Fire Science, with over 100 publications on fire retardancy and fire toxicity. He has been at UCLan for more than 7 years and teaches physical chemistry.</td>
<td><a href="mailto:trhull@uclan.ac.uk">trhull@uclan.ac.uk</a> Ext. 3543 JBF110</td>
</tr>
<tr>
<td>Dr. Willam Goodwin</td>
<td>Module tutor FZ4001</td>
<td>Will's background is in the area of molecular genetics, he undertook a BSc at the University of Leicester and followed this with a PhD from the University of Glasgow. Before joining the School he worked in the Department of Forensic Science and Medicine at the University of Glasgow for eight years where he carried out both</td>
<td><a href="mailto:whgoodwin@uclan.ac.uk">whgoodwin@uclan.ac.uk</a> Ext. 4254 Room:MB</td>
</tr>
</tbody>
</table>
Dr. Joseph Hayes  |  Teaching staff  
|  |  
| FZ4606  |  Joe is a lecturer in computational chemistry. After completing his PhD in computational chemistry at Trinity College Dublin, Joe gained post-doctoral experience initially in the USA (Trinity University, San Antonio, Texas) and then in Europe. He has been working at UCLan for the last one year.  | jhayes@uclan.ac.uk  
|  |  Ext. 4334  
|  |  MB59  

Dr. Anna Stec  |  Teaching staff  
|  |  
| FZ4601  |  Anna is a Reader in Fire toxicity. She received her MSc (Eng) in Chemistry (Chemistry with Polymer Technology) with First Class Honours, Department of Chemistry and Polymer Technology, Warsaw University of Technology followed by Ph.D. in Fire Chemistry and Toxicity from Fire Materials Laboratory, Centre for Materials Research and Innovation, University of Bolton, UK. She has been at UCLan for more than 6 years and responsible for forensic toxicology teaching.  | aastec@uclan.ac.uk  
|  |  Ext. 3759  
|  |  JBF108  

### 1.1.6 Technical Support

These are the individuals who ensure that laboratory classes run smoothly and that all equipment and facilities are maintained to a high standard. They are extremely helpful and do not hesitate to request their assistance.

For Chemistry the principal technician is Sal Tracy, Email TCTracey@uclan.ac.uk

### 1.1.7 Campus Admin Services

Campus Admin Services provides academic administration support for students and staff and are located at Foster Hub close to the entrance to Foster Building (MB058). The hub is open from 8.45am until 5.15pm Monday to Thursday and until 4.00pm on Fridays. The hub can provide general assistance and advice regarding specific processes such as extenuating circumstances, extensions and appeals. Course specific information is also available via School blackboard sites. The hub telephone number is 01772 891990/891991. The hub email contact is fosterhub@uclan.ac.uk
2. Philosophy/Rationale of the MSc Programmes

2.1 Aims of the Programmes

The programme has been designed to provide an in-depth study of a particular topic and develop critical and analytical skills involving the principles, practices and techniques of that specialist topic. The aims of the programme are:

- To extend students' comprehension of key chemical concepts and so provide them with an in-depth understanding of synthetic organic chemistry
- To provide students with the ability to plan and carry out experiments independently and assess the significance of outcomes
- To develop in students the ability to adapt and apply methodology to the solution of unfamiliar types of problems in synthetic organic chemistry
- To instil a critical awareness of advances at the forefront of synthetic organic chemistry
- To prepare students effectively for professional employment or doctoral studies in the area of synthetic organic chemistry

2.2 Learning Outcomes of the Programme

The programme provides opportunity for learners to achieve the following outcomes:

Knowledge and Understanding
- Assess an unfamiliar problem in synthetic organic chemistry and be able to design and implement a suitable solution.
- Present chemical information clearly and concisely
- Research information from literature/manuals/internet.
- Effectively plan a project and record data and their critical analysis.
- Design, plan and implement research questions to problems in synthetic organic chemistry including evaluation of hazards and environmental effects.
- Develop general strategies for synthetic organic chemistry including the identification of additional information required and problems where there is not a unique solution.

Subject Specific Skills
- Select appropriate techniques and procedures for the synthesis of specific compounds.
- Demonstrate competence in the planning, design and execution of experiments
- Evaluate different potential solutions to an unfamiliar problem.
- Work independently, under minimum supervision, and be self-critical in the evaluation of risks, experimental procedures and outcomes.
- Use an understanding of the limits of accuracy of experimental data to inform the planning of future work.
Thinking Skills
- Evaluate technical and theoretical information
- Adapt and apply methodology to the solution of unfamiliar problems.
- Assimilate, evaluate and present research results objectively.
- Undertake an individual research project, the outcome of which is potentially publishable.
- Assess the success of such a project

Other skills relevant to employability and personal development
- Problem-solving skills including the demonstration of self-direction and originality
- Communicate and interact with professionals from other disciplines
- Ability to exercise initiative and personal responsibility
- Ability to make decisions in complex and unpredictable situations
- Independent learning ability required for continuing professional development.
- Work independently under minimum supervision.
- Develop and write a research project within guidelines and be able to assess the success of such a project.

It is often useful to know which learning outcomes will be covered in the different modules; hence it is highly recommended to see Appendices A (page 47) where you can see a table containing the curriculum skill map (page 50).
3. **Programme Organisation**

3.1 **Programme Structure**

3.1.1 **Module**

The level of a module is determined by a number of factors, examples of which are: the skills and knowledge required for you to benefit from the module, the intellectual demands it makes and the degree of specialisation involved. The level used in the programme is:

**Level 7:** Display mastery of a complex and specialised area of knowledge and a critical awareness of issues at the forefront of the area of study; employ advanced subject specific and cognitive skills to enable decision-making in complex and unpredictable situations, the generation of new ideas and support the achievement of desired outcomes.

3.1.2 **Marks**

Each student registered for a course module will be awarded a percentage mark. The following table indicates the percentage marks that are awarded. In certain instances a grade descriptor is used for fail marks or for modules that have not been completed.

<table>
<thead>
<tr>
<th>Grade/Percentage</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100</td>
<td>Distinction</td>
<td>Well above average performance</td>
</tr>
<tr>
<td>60-69</td>
<td>Merit</td>
<td>Above average performance</td>
</tr>
<tr>
<td>50-59</td>
<td>Pass</td>
<td>Average performance</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>Where aggregate mark is 50% or above, but a core element is failed</td>
</tr>
<tr>
<td>R&lt;50</td>
<td>Fail</td>
<td>Reassessment recommended</td>
</tr>
<tr>
<td>I</td>
<td></td>
<td>Incomplete with good cause</td>
</tr>
</tbody>
</table>

It is possible for an examination board to “compensate” one module if it was failed by a small margin. This power is not usually exercised but would mean that a module or half-module did not count against you in getting an award. Some modules are specified on programmes as core and as such **CANNOT** be compensated. In this programme the dissertation is “core” and cannot be compensated by an exam board. It is particularly rare to compensate higher level modules.
3.2 Course Structure

3.2.1. Full Time Programme

The course is a three-part full time programme which lasts for 45 weeks. The first two semesters are approximately 15 weeks long and correspond to the two University semesters and the third semester of 16 weeks is over the summer period. There are two intermediate exit points designed into the course. A student who successfully completes three modules may be eligible for a Postgraduate Certificate (PgCert). This is dependent on passing the modules required for the exit award as shown in the programme specification which can be found in the appendix at the back of this handbook.

A student who successfully completes six modules is eligible for a Postgraduate Diploma (PgDip).

3.2.2 Course Delivery

Most of the modules that you will study in Semesters 1 and 2 of the Programme will consist of lectures and practical sessions/tutorials. Typically, as a full time student you are expected to study for 12 hours per week per module which may be broken down into lectures, practical classes, seminars, tutorials and independent study (in the library, laboratory or at home). This amounts to a minimum of 36 hours per week. **Any lesser commitment than this is unlikely to produce a good degree.**

You should bear this in mind if you are going to undertake part-time employment. Your first commitment must be to the course: if you are a full-time student it means just that.

Semester 3 of the course is the only Research Project when you will be expected to spend approximately 14 weeks undertaking a project either at the University or on the premises of another suitable establishment. This will be followed by a 2-week period during which you will complete your report and prepare for your presentation. Whilst conducting your project, you will be expected to normally work on your project for at least 36 hours per week.

The amount of time spent in private study will vary from student to student and will depend on your academic ability. The recommended time should therefore in practice be taken as a minimum value.

3.2.3 Accreditation of Prior Learning

If you consider that you may have already achieved some of the learning outcomes of the course through previous learning, please consult your course leader and gain advice from the APL unit to find out whether you can make a claim for **accreditation of prior learning** for part of your course.
3.2.4 Part Time Students

Part-time students typically take four modules each year. An individual programme will be worked out for each student to fit in with their needs and the pre-requisite requirements of any of the modules.

3.2.5 Course Leader

Tapas Sen is course leader for the programme and his contact details are listed in section 1.1.5. The responsibility of the Course Leader is to ensure the smooth running of each course on a day-to-day basis.

3.2.6 Personal Tutor

You will be assigned a Personal Tutor during induction week for the duration of your course and you will be able to find details of who your personal tutor is and where to find them on the MSc notice board outside MB124.

They are responsible for providing you with support and advice in relation to your programme of studies, assistance in accessing other services available to students within the University and to offer whatever help and assistance they can to make your time at the University a satisfying and stimulating experience. Their job is not to have all the answers but they will be able to direct you to the person or place where they can be found. Your personal tutor should be supportive, helpful and try to understand (but not necessarily share) your point of view when you need advice.

At times it may be necessary for them to challenge you over your progress, performance or attendance but it is not their role to constantly monitor you in these areas as may have happened at school or college and to a lesser extent during your undergraduate studies. Your Personal Tutor should be your first point of contact for advice on a wide range of academic, personal, administrative and practical issues.

This source of support is an important feature of the course and we would encourage you to see your Personal Tutor as a friend and helper. Alternatively, where problems are related to a particular module, you are encouraged to approach the module tutor.

You should meet your personal tutor during induction week and during this meeting you should make arrangements about the process by which future regular contact will be maintained. This is usually through e-mail and you should check your UNIVERSITY e-mail account regularly, ideally daily.

In addition there will be appointment sheets by staff offices so that you can also arrange meetings by booking an appointment in person. You should meet with your personal tutor regularly, at least twice in semester 1 and once in semesters 2 and 3.

Both you and your tutors should keep appropriate records of meetings and this may form part of your Personal Development Process.
4. Programme Content

4.1 Modules

The content of the modules are outlined below.

**FZ4001 Research Methods**
Scientists are required to have a wide range of skills beyond the expertise in their specialist subject. This module provides the necessary skills in technical documentation, project management, data analysis and retrieval etc. that are required.

**FZ4006 Research Project**
You will spend 16 weeks undertaking a project which uses and enhances many of the skills learnt on the course. The majority of students will undertake their project at the University, but the opportunity will exist for students to do their project at other relevant institutions. Following the conclusion of the work, you will complete a report on the project as well as give a presentation of your finding and defend your work during the viva examination.

**FZ4601 Separation Science and Mass Spectrometry**
In this module you will develop understanding of the underlying principles of current separation technologies and mass spectrometry. You will also develop an important skill where you will be able to critically appraise scientific methods and data.

**FZ4603 Molecular Spectroscopy**
In this module you will develop a systematic understanding and critical awareness of the full analytical potential of the interaction of each part of the electromagnetic spectrum with matter.

**FZ4605 Organic Synthetic Methods**
In this module, you will develop a thorough understanding of the reagents, reactions and procedures used in organic synthesis and mechanistic consequences of synthetic organic reactions. It will also help you to discriminate between alternative synthetic routes to a complex target molecule and recognising which routes will have the highest potential of success. Finally, it will ensure that you have the ability to apply these potential routes to the design of successful syntheses of complex target molecules.

**FZ4606 Applications in Synthesis**
In this module you will develop a thorough understanding of the reactions used in synthesis of molecules and materials of theoretical and commercial importance. It will also provide a comprehensive understanding of the limitations placed on large scale processes due availability of starting materials and economic constraints. Finally, it will ensure you that you have the ability to apply these potential routes to the successful scale-up of syntheses of commercially important molecules and theoretical understanding using molecular modelling techniques.
### 4.2 Tabular presentation of programme delivery

The following table presents a delivery of several modules in various semesters throughout the year of MSc Synthetic Organic Chemistry programme.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FZ4001 Research Methods (lectures)</td>
<td>FZ4001/FZ4006 Submission of assignment entitled “Research Project Proposal” which is also a part of FZ4003</td>
<td>FZ4006 Experimental work of the Research Project</td>
</tr>
<tr>
<td>FZ4601 Separation Science and Mass Spectrometry</td>
<td>FZ4606 Applications in Synthesis</td>
<td></td>
</tr>
<tr>
<td>FZ4605 Organic Synthetic Methods</td>
<td>FZ4603 Molecular spectroscopy</td>
<td></td>
</tr>
<tr>
<td>FZ4603 Molecular spectroscopy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indicate the modules spread over more than one semester
5. Programme Regulations

5.1 Progression

The Programme is delivered over three semesters. A module board takes place at the end of each semester and an assessment board takes place at the end of the year.

5.2 Award of MSc

To be eligible for the award of MSc you must normally:

(i) Pass a total of nine modules (FZ4003 is a triple module) with an overall APM of 50% or better.
(ii) Obtain a percentage mark of 50% or better in the MSc Research Project module.

The award will be an MSc in Synthetic Organic Chemistry.

The APM is calculated using a rather complicated formula as stated in academic regulations.

\[
APM = \frac{m_1l_1c_1 + m_2l_2c_2 + \ldots + m_nl_nc_n}{l_1c_1 + l_2c_2 + \ldots + l_nc_n}
\]

Put simply, the APM calculation takes into account the mark you got in a module \(m\), the size or credit of the module \(c\) and also the level of the module \(l\).

Your APM is calculated using all nine modules you studied.

Candidates who are considered by the Board of Examiners to have shown exceptional levels of performance may be awarded an MSc with Distinction. Normally this would require:

(i) Pass a total of nine modules with an overall APM of 70% or better.
(ii) Obtain a percentage mark of 70% or better in the MSc Research Project module

If the above is not achieved, the award of an MSc with Merit may be considered by the Board of Examiners. Normally this would require:

(i) Pass a total of nine modules with an overall APM of 60% or better
(ii) Obtain a percentage mark of 60% or better in the MSc Research Project module.

5.3 Exit Awards

5.3.1 Postgraduate Diploma (PgDip)
In the event of failing to pass all modules after a reassessment you will be eligible for the award of a Postgraduate Diploma in Synthetic Organic Chemistry as long as you have achieved 120 credits.

5.3.2 Postgraduate Certificate (PgCert)

A Postgraduate Certificate in Synthetic Organic Chemistry may be awarded for only completing 60 credits.

5.4 Reassessment

Candidates who fail any of the modules are normally entitled to one reassessment. The conditions for passing a module are explained in the Assessment Strategy of each of the modules.

The grade allocated to a passed reassessed module will not exceed a percentage mark of 50%.

The timing of the reassessment will be determined by the Progress Review or Examination Boards.

5.5 Appeals

If you consider that you have a reason to appeal against an assessment board decision, please bear in mind that your reasons must fall within the grounds specified in the University Academic Regulations: Section I. You cannot appeal simply because you disagree with the mark given. The specified grounds for appeal are:

1. that an Assessment Board has given insufficient weight to extenuating circumstances;
2. that the student's academic performance has been adversely affected by extenuating circumstances which the student has, for good reason, been unable to make known to the Assessment Board;
3. that there has been a material administrative error at a stage of the examining process, or that some material irregularities have occurred;
4. that the assessment procedure and/or examinations have not been conducted in accordance with the approved regulations.

If you want to appeal, then you must do so within 14 days of your results being published. The onus is on you to find out your results and submit your appeal on time. Contact the Students' Union Advice and Representation Centre by emailing: suadvice@uclan.ac.uk for support and guidance.

The dates for the publication of results can be found on the academic calendar.
5.6 Health and Safety

As a student of the University you are responsible for the safety of yourself and for that of others around you. You must understand and follow all the regulations and safety codes necessary for a safe campus environment. Please help to keep it safe by reporting any incidents, accidents or potentially unsafe situations to a member of staff as soon as possible.

Safety assessments have been undertaken for each module of your course and you will be advised of all applicable safety codes and any specific safety issues during the induction to your course and modules. You must ensure that you understand and apply all necessary safety codes. These form an essential element of your personal development and contribute to the safety of others.

In particular, laboratories are hazardous areas unless all safety regulations are known and implemented. Specific details of the School safety policies are given to you in separate safety documentation. In particular you should note the requirement that **laboratory coats and safety glasses should be worn at all times in the laboratory**. Safety glasses are not required when the laboratory is used only for data handling exercises.

5.7 Conduct

You will be expected to abide by the Regulations for the Conduct of Students in the University. UCLan expects you to behave in a respectful manner demonstrated by using appropriate language in class, and switching mobile phones / other devices off prior to attending classes.

If your behaviour is considered to be unacceptable, any member of academic staff is able to issue an informal oral warning and the University will support staff by invoking formal procedures where necessary. You can read more about UCLan expectations in the regulations for the Conduct of Students.

5.8 Data Protection

All of the personal information obtained from you and other sources in connection with your studies at the University will be held securely and will be used by the University both during your course and after you leave the University for a variety of purposes. These are all explained during the enrolment process at the commencement of your studies. If you would like a more detailed explanation of the University’s policy on the use and disclosure of personal information, please contact the Information Governance Officer, Legal Services, Strategic Development Service, University of Central Lancashire, Preston, PR1 2HE.
6. Teaching, Learning and Assessment Strategies

The programme is designed to produce graduates with both general and specific skills pertinent to the area studied. The course is assessed by both coursework and examination to ensure that your knowledge and abilities are fully evaluated.

The course will be delivered by lectures, tutorials and practical sessions. The practical sessions will be dependent upon the particular programme being followed and specialist laboratories will be used when appropriate. Some specialist equipment may only be available in certain rooms. Rooms will generally be open during normal university working hours, i.e. Monday to Friday, 0800-1700.

Semester 1 of the course consists of two semester 1 modules and two modules partly in semester 1. FZ4001 (Research Methods) and FZ4603 (molecular spectroscopy) modules are common to all three MSc Chemistry taught programmes and will be spread over semesters 1 and 2. FZ4601 (Separation Science and Mass Spectrometry) is also a compulsory module which will be taught in the first semester only. You will then have a pure organic chemistry module (FZ4605) in the first semester on organic synthetic methods.

Topics will be briefly introduced using a lecture or PowerPoint presentation format (available on BlackBoard) and via case studies/research papers under the Research method module (FZ4001). Statistics will be delivered via computer-based practicals and you will be given feedback on the development of your techniques in each area.

Separation Science and Mass Spectrometry (FZ4601) module will be delivered via one 2 hour lecture, a 4 hour practical each week and a 1 hour journal club alternate weeks during the semesters 1 and 2. You will be assessed via A laboratory note book on a pass / fail basis; (ii) A series of short (typically 15 minute) critical appraisals of relevant scientific papers in journal club format and a 4 hour open book exam.

Organic Synthesis Methods (FZ4605) module will be taught through lectures and laboratory classes guided by appropriate pre-assigned reading in texts and professional journals for the majority of the topics. This will develop your ability to assimilate information and contribute meaningfully to discussions. The laboratory classes will ensure that you are up-skilled in the art of problem solving which is crucial for employability in the field of synthetic chemistry. This module will also provide you diverse research and presentation skills relevant to modern organic synthesis.

Semester 2 of the course consists of advanced organic chemistry module (FZ4606) on applications in synthesis along with part of FZ4001, FZ4603 and
FZ4006. In the second semester, you will be spending a good amount of time on planning, collecting literature information and writing your dissertation project plan for FZ4006.

The advanced organic chemistry module (FZ4606) will be taught through lectures and laboratory classes guided by appropriate pre-assigned reading in texts and professional journals for the majority of the topics. This will develop your ability to assimilate information and contribute meaningfully to discussions. The laboratory classes will ensure that you are up-skilled in the art of problem solving which is crucial for employability in the field of synthetic chemistry. The module will also provide you diverse research and presentation skills relevant to modern organic synthesis.

Final semester (3rd) has been solely kept for your research project in order to work independently, under minimum supervision, and be self-critical in the evaluation of risks, experimental procedures and outcomes. The nature of the work and the interaction with other researchers that is needed to complete the project will all contribute to the experience.

You will find that the pace of delivery and demands of practical sessions will increase as you progress through the modules in semester 1.

The assessment strategies of the course have been developed so that you are assessed in the way that is the most appropriate to the area of study. Therefore some modules will be assessed by coursework only whilst others will have formal examinations where this is the best way to assess your knowledge and understanding of the subject area and your ability to apply it.

6.1 Assessment of Non-Project Work

The courses are assessed by both coursework and examination. To ensure that you do not have an excessive amount of assessment at any one time, the coursework assessment will take place uniformly throughout the course.

Semester 1 of the course is designed to ensure that you have the basic skills needed to obtain an MSc. It is important that you develop a range of skills that will be of benefit when you gain employment after the course. The main skills that you are developing will be in the areas of presentations, report writing and experimental problem solving.

Report writing will take several different forms to ensure that you develop different techniques according to the nature of the task being undertaken. These consist of the conventional report, articles of prescribed length, etc. In addition there will be problem-solving tasks that will involve literature searches, use of the Internet and case studies.

Most modules will be assessed by coursework assignments and examinations. Each assignment will be substantial and will be based upon work undertaken in laboratory and/or tutorial sessions. Modules assessed by coursework only
will have additional assignments that may take the form of a mini project. A schedule of assignments will be drawn up ensuring that there is no more than one assignment in a particular week. The deadline for handing in of assignments will be rigorously adhered to as would be expected in a working environment.

You will prepare a project plan in the 2nd semester as a part of the assignment under the Research Methods module (FZ4001). That will give you a solid foundation in preparing a detailed plan of your research including Gantt chart as a coursework assessment for FZ4006. Separation Science and Mass Spectrometry Module (FZ4601) will be assessed via laboratory practical reports, coursework (Critique of research article on an Analytical Chemistry technique applied to toxicology article) and examination.

FZ4605 will be assessed via presentation, mini project report and examination where FZ4606 will be assessed via presentation, laboratory practical report and critical review report without examination.

The aims of the continuous assessment of non-project work are to:
1. Assist in the teaching/learning process,
2. Provide a measure of the extent to which you are benefiting from the course and the course is achieving its own aims.

The objectives of the assessment are that:
1. You are provided with feedback on your level of competence with the material assessed,
2. You are advised of strategies which could be used to improve future performance,
3. Staff members are alerted to individual and collective problems of students with the course.

You will be assessed continuously by a variety of techniques. These involve assignments, presentations and examinations.

N.B. Plagiarism of work (i.e. presenting other people’s work as your own) is considered as cheating and so is a serious offence as stated in Section G.10 of the academic regulations.

**6.1.1 Assignments**

The assignments for non-project work take on two different forms. In Semester 1 where some students may be returning to an academic environment after many years out of the system, the emphasis of the assignments will be in the development of a range of study skills. This results in assignments which are solving problems, producing simple design studies, writing laboratory reports and the presentation of case studies.

The impetus from the study skills gained from Semester 1 is consolidated in Semester 2 where more challenging synthesis of material is expected. You are now involved in more Level 7 Specialist Topics and here you will have to
balance your time in completing laboratory experiments and assignments with
the necessity of ensuring that the group project progress continues unabated.

6.1.2 Presentations

A feature of many of the modules is that you have to give a presentation on
your work. This is a skill with which you may be unfamiliar so it is essential to
develop it from an early stage in the course. Criteria for this assessment may
cover the following areas:

A Structure of presentation
B Quality of communication
C Use of A.V. aids and resources
D Effectiveness in handling questions

6.1.3 Examinations

Some of the specialised skills modules studied will have an end of module
examination as well as coursework assessment. The examination component
is included where it is felt that this type of assessment is suitable for evaluation
of your knowledge.

Examinations will typically be of three hours duration and will consist of a
combination of short, directive answer and essay type questions. Examinations
will be held during central exam weeks at the end of Semesters one and two.

6.1.4 Assessment Weighting

The weighting of assessments is varied according to the module content. Details for each module can be found in the individual module descriptions, in
module booklets and in assessment briefs.

6.2 Assessment of Project Work

The Laboratory Management and Quality Assurance module includes a group
project which will involve groups of three or four students working together on
a project which has a specific application. Each student will have both a
technical and administrative role to play and will share aims and objectives with
other members of the group towards a common end. The group project requires
the integration of a range of technical, intellectual and interpersonal skills at a
postgraduate level and as such it has been graded at level 7. You will be
expected to treat the project as a case study which culminates in the
presentation of results in a courtroom scenario. Thus, this module utilises and
develops the skills covered in other modules in semester 1 of the course.

The course culminates in semester 3 with the MSc Research Project which
gives you the opportunity to apply what you have learnt on the course to a
specialist research topic. You will conduct the work over a 14 week period and
during a further two weeks at the University you will complete a report and give
a presentation at a seminar. The seminar will be attended by the supervisors,
fellow students and School staff. In addition to the seminar, you will have an oral examination where you will have to defend your work in front of a panel formed by several members of staff of relevant expertise.

6.3 Assessment Arrangements for Students with a Disability

Arrangements are made for students who have a disability/learning difficulty for which valid supporting evidence can be made available. Contact the Disability Adviser for advice and information, disability@uclan.ac.uk.

6.4 Submission of Assessments

Normally all work should be submitted through Blackboard and Turnitin. Information about the requirements for individual assessments and their respective deadlines for submission/examination arrangements will be provided in the assignment brief or in the module booklet that will be posted on Blackboard.

All work should be submitted with a completed assessed work cover sheet with the declaration signed (this also applied to electronic submissions). These assessed work cover sheets can be obtained on the module and course pages on Blackboard.

Once the work has a FULLY completed and signed cover sheet attached, it should be submitted through the assignment drop-box on Blackboard or through one of the letter boxes in JBF203.

6.5 Deadlines for Assessments

In the workplace you will be faced with many deadlines. Assessment deadlines will help you to develop a personal ethos, which will enable you to cope with tight work schedules. We expect work to be handed in on time.

A deadline is set at a particular time on a particular day and work submitted after this time without an extension granted by your course leader will be penalised.

If you submit work late and unauthorised, a universal penalty will be applied in relation to your work:

- If you submit work within 5 working days following the published submission date you will obtain a maximum mark of 50% for that element of assessment.
- Work submitted later than 5 working days after the published submission date will be awarded a mark of 0%.
- Unauthorised late submission at resubmission will automatically be awarded a mark of 0%. 
If you have problems that prevent you meeting a deadline for submission, it is imperative that you contact your course leader, before the deadline expires. The contact details for your course leader can be found at the front of this booklet.

This regulation is not intended to be draconian. However, since in most cases work will be returned to students with specimen answers and feedback, it would delay the return of coursework to the rest of the group if this regulation were not adhered to. Rather than disadvantage the majority of students for the sake of the few, this regulation will be strictly implemented.

### 6.6 Extensions

Assignments must be submitted no later than the date on your assignment brief. If you anticipate that you will have difficulty in meeting assessment deadlines or you have missed or are likely to miss in-semester tests you must report this at the earliest possible opportunity to your course leader.

Authorisation of the late submission of work requires written permission. The School with responsibility for your module will be authorised to give permission for one extension period of between 1 and 10 working days where evidence of circumstances has been accepted and where submission within this timescale would be reasonable taking into account those circumstances (Academic Regulations:G3).

Extensions of deadlines for coursework will only be granted in exceptional circumstances and can only be authorised by the relevant course leader or, in exceptional circumstances, the programme co-ordinator. They are only authorised to grant one extension period of between 1 and 10 working days where evidence of circumstances has been documented and accepted.

Extensions must be sought well in advance of the deadline by contacting your course leader.

Upon receipt of the evidence and a completed application for coursework extension form, and if your application for extension is granted, the form and the assessment cover sheet will be signed by the Course leader and a new deadline set.

We aim to inform you of a decision about granting an extension within 2 days of the receipt of the request.

If you are unable to submit work within 10 working days after the submission date due to verifiable extenuating circumstances, you may submit a case for consideration in accordance with the University’s Policies and Procedures on
6.7 Extenuating Circumstances

"Extenuating Circumstances" is a phrase which refers to exceptional factors outside of your control which have adversely affected your performance within your course. These factors may prevent you from attending examinations or other timed assessments or caused you to miss assessment submission dates. Examples are illness, accidents or serious family problems.

Normally extenuating circumstances will relate to a change in your circumstances since you commenced your course, which have had a significant, adverse effect on your studies. Everyday occurrences such as colds or known conditions such as hay-fever will not qualify unless the effects are unusually severe and this is corroborated by a medical note. The University does not look sympathetically on absences or delays caused by holiday commitments or by work commitments in the case of full-time students. The normal work commitments of part-time students would not constitute an extenuating circumstance. A disability or learning difficulty does not constitute an extenuating circumstance (Academic Regulations: G5).

You can apply for extenuating circumstances online via myUCLan (this can be accessed as a Useful Tool link on the Student Portal home page of the UCLan website) or use the paper based system if your circumstances are such that you cannot access myUCLan. You must submit claims within specified deadlines and submit corroborating evidence to the School office. More information about deadlines and gaining access to envelopes is available from the ‘i’ website.

You will be expected to re-submit claims for extenuating circumstances for each assessment period, even if your difficulties are continuing from one semester to another.

All evidence that is provided relating to extenuating circumstances will be treated in a sensitive and confidential manner. Supporting evidence will not be kept for longer than is necessary and will be destroyed shortly after the end of the current academic year.

In determining assessment recommendations, Assessment Boards will consider properly submitted claims from students who believe their performance has been adversely affected by extenuating circumstances. N.B. Assessment Boards are not permitted to alter individual assessment marks to take account of extenuating circumstances (Academic Regulations: G9 and Assessment Handbook).

If you are in any doubt concerning a claim for Extenuating Circumstances, you are advised to seek guidance from your Personal Tutor.
Extenuating Circumstances will only be considered if they are submitted within the published deadlines and that there is evidence to support them. This should include, where appropriate, a medical certificate; hospital appointment card; note from your GP or a University counsellor; crime reference number; car recovery/breakdown report, death certificate etc.

Remember that extensions of up to 10 working days can be granted for coursework by the Course leader on the production of documented evidence.

6.8 Feedback

UCLan is committed to giving you clear, legible and informative feedback for all your assessments (Academic Regulations: G2.4). You are expected to review and reflect on your feedback and learn from each experience to improve your performance as you progress through the course.

Staff will provide individual written feedback on all in-module formative and summative elements of assessment which contribute to a module within 15 working days of the scheduled submission or examination date. This may initially be generic feedback and may be verbal during a lecture or one-to-one session, or written e.g. in the form of specimen answers, or comments posted on a website or other.

Generic feedback on end of module assessment and dissertations will be made available within 15 working days following the publication of results. Feedback may be oral, written, posted on a website or other.

6.9 Cheating, Plagiarism, Collusion and Re-presentation

You are required to sign a declaration indicating that individual work submitted for an assessment is your own. Work submitted without such a declaration will not be marked. The use of work produced for another purpose by you, working alone or with others, must be acknowledged.

If you attempt to influence the standard of the award you obtain through cheating, plagiarism or collusion, it will be considered as a serious academic and disciplinary offence as described within the Academic Regulations: G7 and the Assessment Handbook

- Cheating is any deliberate attempt to deceive and covers a range of offences described in the Assessment Handbook:
  - Being in possession of notes, 'crib notes', or texts books during an examination other than an examination where the rubric permits such usage;
  - Copying from another candidate’s script or work;
  - Communicating during the examination with another candidate;
- Having prior access to the examination questions unless permitted to do so by the rubric of the examination;
- Substitution of examination materials;
- Unfair use of a pocket calculator;
- Impersonation;
- Use of a communication device during the examination;
- Or any deliberate attempt to deceive.

- Plagiarism describes copying from the works of another person without suitably attributing the published or unpublished works of others. This means that all quotes, ideas, opinions, music and images should be acknowledged and referenced within your assignments. Brief quotations from the published or unpublished works of another person, suitably attributed, are acceptable. You must always use your own words except when using properly referenced quotations. Plagiarism amounts to dishonesty, which is wholly unacceptable.

- Collusion is an attempt to deceive the examiners by disguising the true authorship of an assignment by copying, or imitating in close detail another student’s work - this includes with the other student’s consent and also when 2 or more students divide the elements of an assignment amongst themselves and copy one another’s answers. It does not include the normal situation in which you learn from your peers and share ideas, as this generates the knowledge and understanding necessary for each individual to independently undertake an assignment; nor should it be confused with group work on an assignment which is specifically authorised in the assignment brief.

- Re-presentation is an attempt to gain credit twice for the same piece of work.

Normally you will be required to submit your assignment through Blackboard and Turnitin, and its contents will automatically be scanned against a variety of resources to check the original source of the material.

The process of investigation and penalties which will be applied can be reviewed in the Assessment Handbook, section 5. If an allegation is found to be proven then the appropriate penalty will be implemented:

In the case of a single offence of cheating, plagiarism, collusion or re-presentation:

- the penalty will be 0% for the element of assessment, and an overall fail for the module.
- the plagiarised element of assessment must be resubmitted to the required standard and the mark for the module following resubmission will be restricted to the minimum pass mark (ie 40% for levels 4, 5 and 6 work, 50% for level 7 work).
- when it is detected for the first time on a resubmission for an already failed module, no further resubmission for the module will be permitted, and the appropriate fail grade will be awarded.
In the event of a repeat offence of cheating, plagiarism, collusion or re-presentation (irrespective of whether the repeat offence involves the same form of unfair means) on the same or any other module within the course:

- the appropriate penalty will be 0% for the module with no opportunity for re-assessment. This penalty does not preclude you being able to retake the module in a subsequent year.

The penalties will apply if you transfer from one UCLan course to another during your period of study and module credits gained on the former course are transferred to the current course.

Contact the Students’ Union Advice and Representation Centre by emailing: suadvice@uclan.ac.uk for support and guidance.

You can find more about the various forms of plagiarism and how to avoid it in the following publications:


Smith, Jean et al, *How to avoid plagiarism* (www.northwestern.edu/uacc/plagiar.html).


Writing Tutorial Services, *Plagiarism: What It is and How to Recognize and Avoid It*, Indiana University, Bloomington, IN, USA (http://www.indiana.edu/~wts/pamphlets/plagiarism.pdf).

In addition that the fact will be included in any reference given to a potential employer and may well adversely affect the chances of employment.

### 6.10 Attendance

You are required to attend all timetabled learning activities for each module. Notification of illness or absence must be made to the campus administrative hub (see section 1.1.7)

Exceptional requests for leave must be made to the Programme Co-Ordinator or nominee (usually the Course Leader). You should contact the campus administrative hub (see section 1.1.7) as above and your request will be forwarded to the appropriate person. Unauthorised absence is not acceptable and may attract academic penalties and/or other penalties.
Some practical sessions may involve assessed work, so if you miss the practical without good reason you will attract a score of 0% in that assessment. In the event of absence due to illness, a medical certificate must be produced.

If you have not gained the required authorisation for leave of absence, do not respond to communications from the University and if you are absent for four weeks or more, you may be deemed to have withdrawn from the course. If this is the case, then the date of withdrawal will be recorded as the last day of attendance.

Your attendance at classes will be monitored using SAM, and you can check your attendance record through myUCLan.

Each time you are asked to enter your details on SAM you must remember that the University has a responsibility to keep information up to date and that you must only enter your own details on the system. To enter any other names would result in inaccurate records and be dishonest. Any student who is found to make false entries can be disciplined under the student guide to regulations.

6.11 Reassessment

If you fail a module you may be offered reassessment for a maximum of 50%. However, these students, along with those who do not seek reassessment or who fail reassessment may be considered for the awards of PgCert or PgDip.

6.12 Assessment Criteria

Several different types of assessment are used in the course including reports, log book/diaries, problem solving, oral presentations, dissertations etc. In each case there are a number of common elements. The criteria listed in the following pages are the main ones used for marking. Different assessment types will contain different balances of criteria.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Methods</th>
<th>Problem-solving</th>
<th>Conceptual understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding/Excellent/Very Good</td>
<td>Error-free Application of methods to a range of easy and hard problems</td>
<td>Thorough grasp of complex problems, possible solutions and their limitations</td>
<td>Thorough grasp of the underlying concepts</td>
</tr>
<tr>
<td>70-100%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Good (above average) 60-69%</td>
<td>Some errors in complex problems</td>
<td>Thorough grasp of problems but incomplete understanding of limitations of solutions</td>
<td>A grasp of most of the underlying concepts</td>
</tr>
<tr>
<td>Average 55-59%</td>
<td>Able to apply methods to a range of problems, some non-standard</td>
<td>Able to solve some complex problems, with some indication of limitations</td>
<td>A superficial understanding of the concepts with indications of the students limitations</td>
</tr>
<tr>
<td>Satisfactory (below average) 50-54%</td>
<td>Able to apply methods to a range of simple problems</td>
<td>Able to produce simple solutions to easy problems</td>
<td>Limited conceptual understanding</td>
</tr>
<tr>
<td>Bare minimal pass 50%</td>
<td>Able to apply methods to some simple problems; often with errors</td>
<td>An understanding of simple problems, with some idea of appropriate solutions</td>
<td>An understanding of only very simple concepts with conceptual gaps and misunderstandings</td>
</tr>
<tr>
<td>Fail &lt;50%</td>
<td>Failure to apply methods to simple problems, or many errors</td>
<td>Failure to understand the nature of the problem</td>
<td>No grasp of even the simplest concepts</td>
</tr>
<tr>
<td>Classification</td>
<td>Work done</td>
<td>Motivation</td>
<td>Group work</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Outstanding/ Excellent/ Very Good 70-100%</td>
<td>Considerable work done, excellent experimental technique and achievement</td>
<td>Highly self motivated and high level of initiative</td>
<td>Well organised task management with clear delineation of roles within the group</td>
</tr>
<tr>
<td>Good (above average) 60-69%</td>
<td>Clear evidence of work done, good experimental technique and significant achievement</td>
<td>Self motivated but requiring some staff help occasionally</td>
<td>Organised task management with some delineation of roles within the group</td>
</tr>
<tr>
<td>Average 55-59%</td>
<td>Reasonable amount of work done, adequate experimental technique and achievement</td>
<td>Student requires a moderate level of staff involvement to sustain the work</td>
<td>Task management is subdivided within the group but not very clearly</td>
</tr>
<tr>
<td>Satisfactory (below average) 50-54%</td>
<td>Some evidence of work done, poor experimental technique and some identifiable achievement even if not the original aim</td>
<td>Student shows little self motivation or initiative and requires a lot of staff involvement</td>
<td>Task management is poorly subdivided within the group and there is some confusion over roles</td>
</tr>
<tr>
<td>Bare minimal pass 50%</td>
<td>Small amount of work done with a small but identifiable achievement; experimental technique is very poor</td>
<td>Student shows little motivation and requires considerable staff involvement</td>
<td>Task management is ineffectively subdivided within the group and there is confusion about job allocation</td>
</tr>
<tr>
<td>Fail &lt;50%</td>
<td>Inadequate work and achievement; inadequate experimental technique</td>
<td>No motivation and lack of positive input into the project</td>
<td>No attempt to work as a group</td>
</tr>
<tr>
<td>Classification</td>
<td>Relevance</td>
<td></td>
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<td>---------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outstanding/ Excellent/ Very Good</td>
<td>Directly relevant to the title; able to address the implications, assumptions and nuances of the title</td>
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<td></td>
</tr>
<tr>
<td>70-100%</td>
<td>Makes effective use of excellent knowledge and thorough understanding of the relevant material</td>
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<tr>
<td></td>
<td>A very good analysis of the evidence, arguments or results, giving clear illuminating conclusions</td>
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<td></td>
</tr>
<tr>
<td>Good (above average) 60-69%</td>
<td>Directly relevant to the title</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Makes effective use of excellent knowledge and thorough understanding of the relevant material</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Good analysis, clear and orderly</td>
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</tr>
<tr>
<td>Average 55-59%</td>
<td>Some attempt to address the title, may drift away from the title in the less focussed passages</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Adequate knowledge of a fair range of the relevant material with intermittent evidence of understanding</td>
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<tr>
<td></td>
<td>Some analytical treatment but may be prone to description or lacking in analytical purpose</td>
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<td></td>
</tr>
<tr>
<td>Satisfactory (below average) 50-54%</td>
<td>Some significant degree of irrelevance to the title is common</td>
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</tr>
<tr>
<td></td>
<td>Basic understanding of a limited range of material</td>
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<tr>
<td></td>
<td>Largely descriptive with little evidence of analytical skill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bare minimal pass 50%</td>
<td>Relevance to the title may be intermittent; the topic may be reduced to its vaguest and least challenging terms</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A limited understanding of a narrow range of material</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mainly descriptive with little analytical content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fail &lt;50%</td>
<td>Outright irrelevance to the title</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of basic knowledge necessary for an understanding of the topic</td>
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</tr>
<tr>
<td></td>
<td>Inadequate description and no analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification</td>
<td>Structure</td>
<td>Originality</td>
<td>Presentation</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Outstanding/ Excellent/ Very Good</td>
<td>Coherently and logically structured, making use of appropriate standard formats</td>
<td>Distinctive work showing independent thought and critical judgement</td>
<td>Very well presented on good English and correct spelling and syntax; creative use of IT and inclusion of bibliography and clear instructive diagrams</td>
</tr>
<tr>
<td>70-100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good (above average) 60-69%</td>
<td>Generally coherent and logical structure</td>
<td>May contain some distinctive or independent work and some evidence of critical judgement</td>
<td>Well written, with good style, spelling and syntax, acceptable use of IT, diagrams and bibliography</td>
</tr>
<tr>
<td>Average 55-59%</td>
<td>Some attempt at using a logical structure and/or standard format</td>
<td>Sound work but showing no distinctive elements; conforming to standard patterns of approach</td>
<td>Competently written with only minor errors of spelling and syntax. Acceptable use of IT, diagrams and bibliography</td>
</tr>
<tr>
<td>Satisfactory (below average) 50-54%</td>
<td>A basic argument may be evident, but tends to lack clarity</td>
<td>Largely derivative showing little originality of approach</td>
<td>Rather poorly written with numerous lapses of spelling and syntax; poor diagrams, use of IT and bibliography</td>
</tr>
<tr>
<td>Bare minimal pass 50%</td>
<td>Little evidence of a logical structure</td>
<td>Mostly derivative</td>
<td>Poorly presented with numerous lapses of spelling, syntax and poor diagrams</td>
</tr>
<tr>
<td>Fail &lt;50%</td>
<td>No evidence of clear and logical structure</td>
<td>No originality shown</td>
<td>Garbled and negligently presented</td>
</tr>
</tbody>
</table>
7. Personal Development Planning

While you are studying for your MSc, you will learn many new concepts, analyse them, evaluate them and apply them. You already expect to learn lots of facts and techniques to do with your subject specialism, but you will also learn other things of which you might not be aware. You will learn how to study more independently than you may have done previously, how to work with other people, how to manage your time to meet deadlines, and so on. If you are to be an employable individual it is vital that you can list the skills employers value in your CV.

Employers are looking for skills such as:

- self-organisation
- team work
- good written communication
- good oral communication
- problem solving

In order to help you in this area, the school has introduced a system that aims to:

- help you to identify the skills you should be developing,
- help you to identify the ones you are weak in, and
- take action to improve those skills.

This approach can broadly be described as Personal Development Planning, and can be defined as:

**A structured and supported process undertaken by an individual to reflect upon their own learning, performance and / or achievement and to plan for their personal, educational and career development.**

The University puts a high priority on your personal development, and so keeping a record of your achievements is encouraged and will help when you are applying for jobs. When you ask staff for a reference, they could use this information to help them provide more rounded detail.
8.   Facilities

8.1 Laboratory and Computing Facilities

Besides the normal lecture and seminar rooms that are found within the University, the MSc programmes use specialist laboratory facilities. The laboratories are located in Maudland building. These laboratories house the specialist equipment required by the courses.

Computing Facilities are available in the general computing suites found within the building and throughout campus.

8.2 Learning Resources

Extensive resources are available to support your studies provided by LIS – library and IT staff. Take advantage of the free training sessions designed to enable you to gain all the skills you need for your research and study.

LIS provide access to a huge range of electronic resources – e-journals and databases, e-books, images and texts.

Course and module materials are not provided in ‘hard copy’ format, however, wherever practicable, lecture notes and/or presentations, seminar materials, assignment briefs and materials and other relevant information and resources are made available in electronic form via Blackboard. This is the brand name for the on-line Virtual Learning Environment (VLE) that the University uses to support and enhance teaching and learning.

All students can access the Blackboard spaces for the course and modules that they are registered for. Once logged into your Blackboard area you can access material from the course and all of the modules you are studying without having to log in to each module separately.

You can expect that, on the Course page, you will be able to access:

1. Course Handbook
2. Student Guide to Assessment
3. Timetables
4. Minutes of SSLC Meetings
5. External Examiners Report

You can expect that, on each module space, you will be able to access:

1. Module Description
2. Module Booklet
3. Assignment briefs (including a marking scheme), if not included in the module booklet
4. Generic feedback on coursework assignments
5. Handouts for tutorials and practicals
6. Lecture notes (no later than 48 hours after the date of the lecture).
7. A past exam paper (if there is an exam in the module)
8. Generic feedback on the examination paper

The following sources of information are relevant to this MSc programme

8.2.1 Current Journals
There are a number of current journals in the library or available online through subscription. You are requested to consult with your project supervisor in order to have relevant journals in the area of your dissertation project.

8.2.2 Books
Relevant texts can be found at the library. For more detailed listings, refer to the subject guides that are available from the helpdesk in the library or on the LIS web pages.

8.2.3 Electronic Resources
The Electronic Information Services web page lists information and access details for all the electronic information services available. This is available on the LLRS web pages. Useful resources include:

BIOMED
Give access to a number of nursing, health and medical databases. You require your username and password to access this.

Biosis
Is the online equivalent of the printed indexes Biological Abstracts and Biological Abstracts/RRM (Reports/Reviews, Meetings). It provides access to bibliographic information from thousands of life sciences journals, meetings and reviews from over 90 countries. Its subject coverage ranges from microbiology, ecology and agriculture to pharmacology, biochemistry and toxicology.

EBSCO
Provides access to over 550 full-text journals to which the LLRS subscribes, covering many subject areas. It also contains the abstracts and indexes of over 4000 journals.

Embase
Is a biomedical and pharmacological database which indexes over 3,800 biomedical journals from 70 countries. Subject coverage includes forensic science, drug research, pharmacology, toxicology, human medicine (clinical and experimental), health policy and management, substance dependence and abuse and psychiatry. It is accessed as part of the ScienceDirect database.

Index to Theses
Is an index with abstracts of theses accepted for higher degrees by the Universities of Great Britain and Ireland from 1970 onwards.

**ingentaJournals**
A multi-disciplinary database of full-text articles available via the BIDS host.

**ScienceDirect**
A database of over 1000 full-text journals published by Elsevier which cover a wide range of subjects.

**Web of Knowledge** is the access route to the:
**Science Citation Index (SCI) – ISI**. This is the electronic version of the respected Science citation Index and Current Contents series dating from 1981. It contains bibliographic references of articles, reports and papers from over 4,400 journals in the field of natural, physical and bio-medical science and technology.

**ISI Proceedings**, previously named Index to scientific and technical proceedings (ISTP), the ISI Proceedings indexes the published literature of the most significant conferences, symposia, colloquia, workshops and conventions held in the areas of science, engineering, technology and medicine. It includes proceedings published in or as books, series, reports, journals, or as sets of preprints where they are the only publications from a conference. ISI Proceedings contains records of nearly 2 million papers. The database provides references to the published proceedings of over 4,200 conferences per year. Proceedings are multidisciplinary, covering diverse subjects from 1982 onwards. Access is via Athens username and passwords, details of which are available from the library helpdesk.

**Ideal** is an electronic journals archive containing over 170 Academic press journals. Access is available on campus. Tables of contents of journals can be browsed as well as the possibility to search and read abstracts and download the full text of articles.
9. Frequently Asked Questions

9.1 The Course Team

Which staff can help me?
If you have a problem with your assignments or understanding lectures/practical sessions you should initially contact the module tutor. If you are still unhappy then speak to a course leader.

How can I contact staff?
Staff can be contacted by visiting their office or by leaving messages using either email. This handbook contains staff numbers as well as email addresses.

How will staff contact me?
Staff will contact you either at lectures or practical sessions or via email. You should endeavour to check your University e-mail account once a day. In extreme circumstances the course leader will contact you via the telephone numbers that you will have entered into your Personal Record form.

9.2 Facilities Outside the School

What other facilities does the University offer?
The University has a well-equipped library containing books, journals and newspapers as well as a large number of computer terminals connected to the University network. There are also several restaurants scattered around the campus. The Student's Union organises numerous social events and its building on Fylde Road contains bars and meeting rooms.

The University has a gym in the Sir Tom Finney Sports Centre and extensive sports facilities on the outskirts of Preston.

9.3 Learning and Workload

How much time should I spend on my studies?
Always a difficult subject and one that is very dependent upon the individual. Sometimes assignments can be completed quickly, at other times they appear interminable. Many assignments on the course have a prescribed number of hours allocated to them through the practical schedule. Spend at least that amount of time on the assignment plus up to 50% more. Make sure that this does not encroach into work for other modules. Time management is of paramount importance. If you feel that the workload is becoming unmanageable seek help from the module tutor or course leader at the earliest opportunity.

What support can I expect from my tutors?
Whenever you have a problem with the content of a module, seek help from the module tutor. He/she will offer advice, additional references and also practical help if appropriate. The purpose of the help will be to enable you to make progress as quickly as possible. The tutor will not do the assignment or practical for you.

**Can I work with other students?**
At various times during the course you will work in groups or in pairs. At other times we actively encourage you to seek help from fellow students. Help and advice can be educationally beneficial to you as it should stimulate your own thought processes. You must not allow other students to do your work for you. Your assignments must be your own individual work and you will sign a declaration to that effect each time you hand in an assignment.

**How do I know how well I have to do in each assignment?**
You will receive your marked assessment back and it will have an assessment sheet attached indicating the good and bad features of your answer. In many cases the tutor will discuss the work with you and you will have the opportunity to make your own comments. The percentage mark that you achieve will be indicative of the standard of your work. Remember that tutors have experience of students from previous years and this establishes a benchmark by which future students are assessed. To achieve 100% will require work of an exceptional nature and is most probably beyond the capabilities of mere mortals!

**What is the APM?**
This is the Average Percentage Mark used to calculate your overall performance on the course. It is determined from your marks in the individual modules as described in section 5.3.

**What if my work is affected by extenuating circumstances?**
See section 7.7.

**What happens if I am referred?**
A referral occurs as a result of failing a module. Provided you have made a reasonable attempt of the assignments or mini-project in the module, the Progress review or Examination Board will offer you the opportunity to resubmit the assignments or mini-project. The maximum mark for the referred module is 50%.

**9.4 Problems**

**What happens if I am ill or absent?**
You are required to attend all timetabled learning activities for each module. Notification of illness or absence must be made to the campus administrative hub (see section 1.1.7)

Exceptional requests for leave must be made to the Course Leader.
You should contact the campus administrative hub as above and your request will be forwarded to the appropriate person.

Unauthorised absence is not acceptable and may attract academic penalties and/or other penalties. Some practical sessions may involve assessed work, so if you miss the practical without good reason you will attract a score of 0% in that assessment. In the event of absence due to illness, a medical certificate must be produced.

If you have not gained the required authorisation for leave of absence, do not respond to communications from the University and if you are absent for four weeks or more, you may be deemed to have withdrawn from the course. If this is the case, then the date of withdrawal will be recorded as the last day of attendance.

Your attendance at classes will be monitored using SAM, and you can check your attendance record through myUCLan.

Each time you are asked to enter your details on SAM you must remember that the University has a responsibility to keep information up to date and that you must only enter your own details on the system. To enter any other names would result in inaccurate records and be dishonest. Any student who is found to make false entries can be disciplined under the student guide to regulations.

What if I am having problems?
Do not allow problems to fester, seek help as soon as possible from the course leader. He/she will deal with the problem if at all possible but otherwise he/she will make arrangements for you to see a University counsellor as soon as possible.

Who do I ask for Help/Guidance/Advice?
Any problems you may choose to discuss with a member of staff, academic or otherwise, will be treated in strict confidence and will not be divulged to anyone without your permission (including parents). It is highly unlikely that you will have a problem we have not encountered before.

The important thing is not to sit on a problem and hope it will go away – it will not! As to whom you should ask, that depends on the nature of the problem:

- **Learning/teaching in a module.** Each module has a Module Tutor – a member of staff responsible for that module. The Module Tutor will be your first port of call for questions about the learning/teaching within the module.

- **Welfare, money, housing, health, personal problems** The ‘i’ is the central Student Information Centre and your first point of contact. You can obtain information on a wide range of topics including student administration such as Council Tax and letters to verify your status.

The ‘i’ can also direct you to the right place to find information on Scholarships, Counselling, Student Finance, Mentoring, Studying Abroad,
Disability Advice, Independent Academic Advice, International Advice, Multi Faith Centre, Pre School Centre, Medical Centre and general life in Preston/Burnley.

Student Engagement Assistants have recent experience of what it is like to be a student and can advise you of the support systems available. They work towards improving your student experience here at UCLan, more information about their role can be found on their web site

- **Administrative questions.** See section 1.1.7 (campus administration support)

- **How can I get help if I find the workload too great?** Again discuss the problem with the module tutor and/or course leader. They will help you to prioritise your work and ensure that the workload for all students has not become unreasonable at that time.

### 9.5 Technical Support

**How do I get help with faulty equipment?**  
Report the matter to the laboratory technician who will either rectify the fault or arrange for the equipment to be replaced. If a technician is unavailable at that time, a fault label should be attached to the equipment and a Faulty Equipment Form should be filled in identifying the cause and nature of the fault. The labels and forms may be found in a rack situated in each laboratory.

### 9.6 Students’ Union

The Students’ Union is the representative body for all UCLan students. The organisation exists separately from the University and is led by the elected officers of the Student Affairs Committee (SAC) as well as representatives on the Students’ Council. The Students’ Union building is located at the heart of the Preston campus, and is the hub for all student activities.

Representation and campaigning for students’ rights is at the core of what we do and is encompassed by our tag line of, *Making Life Better for Students*. Should you wish to make a change to any aspect of your student experience, whether it be academically related or not, then the Union is where your voice can be heard, actions taken, or campaigns launched.

Your Union is also the home to a fantastic range of student-led societies, sports teams and multitudes of volunteering opportunities. You can also receive help in finding part-time work, whilst you study. Not sure where to go? Pop into the Opportunities Centre on the ground floor of the Students’ Union building and someone will point you in the right direction.

We hope your time at University is trouble free, but should you come into difficulties around anything from academic appeals, to issues with housing, benefits or debt, then our dedicated staff team in the Advice and Representation
Centre are on hand to help. As we are independently run from the university, we can offer truly impartial advice.

More information on all these things, as well as details about all our (not-for-profit) commercial services, including our student-bar (Source) and student venue (53 Degree), can be found at [http://www.uclansu.co.uk/](http://www.uclansu.co.uk/).

The Opportunities Centre is the Union’s One Stop Shop to find employment or volunteering whilst you study. With thousands of jobs and voluntary positions advertised, agency work through the Bridge and information on over 2000 volunteer positions within the Union.
10. Student Voice

You can play an important part in the process of improving the quality of this course through the feedback you give. In addition to the on-going discussion with the course team throughout the year, there are a range of mechanisms for you to feedback about your experience of teaching and learning. We aim to respond to your feedback and let you know of our plans for improvement.

The Students' Union can support you in voicing your opinion, provide on-going advice and support, and encourage your involvement in all feedback opportunities.

The Students' Union and University work closely together to ensure that the student voice is heard in all matters of student-life. We encourage students to provide constructive feedback throughout their time at university, through course reps, surveys and any other appropriate means,

The Union’s Student Affairs Committee (SAC), and members of Students’ Council each have particular representative responsibilities, and are involved with decision making committees as high as the University Board. Therefore it is very important students engage with the democratic processes of the Students’ Union and elect the students they see as most able to represent them.

The SEA and the Students Union can provide support and encourage your involvement in all feedback opportunities.

10.1 Course Representatives

A course representative is a student who represents their fellow students’ views and opinions to the course team, school, university and students’ union. Course representatives work proactively and diplomatically to improve the academic and non-academic experiences of students.

The role of a course representative is extremely beneficial to both students on your course and the university. It enables students to have ownership of their student experience and voice their opinions and share positive practice with the course team, primarily the Student Staff Liaison Committee Meetings (see below).

Course representatives will be elected every year either in April or September. Alongside receiving recognition, support and respect being a course representative is a great opportunity to enhance your employability skills. If you are interested in becoming a course representative and wish to find out more about the role simply contact the Students’ Union Advice and Representation Centre by emailing: coursereps@uclan.ac.uk.
10.2 Student Staff Liaison Committee (SSLC) Meetings

The purpose of a SSLC meeting is to provide the opportunity for course representatives to feedback to staff about the course, the overall student experience and to inform developments which will improve future courses. These meetings are normally scheduled once per semester. Your Course Leader will facilitate the meetings using Guidelines and provide a record of the meeting with any decisions and / or responses made and / or actions taken as a result of the discussions held.

The meetings include discussion of items forwarded by course representatives, normally related to the following agenda items (dependent on time of year). The course team encourage student feedback in all areas and recognise that additional items for discussion may also be raised at the meeting:

- Update on actions completed since the last meeting
- Feedback about the previous year – discussion of external examiner’s report; outcomes of National /UCLan student surveys.
- Review of enrolment / induction experience;
- Course organisation and management (from each individual year group, and the course overall);
- Experience of modules - teaching, assessment, feedback;
- Experience of academic support which may include e.g. Personal Development Planning and personal tutoring arrangements;
- Other aspects of University life relevant to student experience e.g. resources, IT, library;
- Any other issues raised by students or staff.

The minutes of the last SSLC meeting will be posted on the course space on Blackboard.

10.3 Complaints

The University recognises that there may be occasions when you have cause for complaint about the service you have received, when this happens, the complaints procedure is intended to provide an accessible, fair and straightforward system which ensures an effective, prompt and appropriate response. Click on this link for more information Complaints Procedure
Appendix A Programme Specification

UNIVERSITY OF CENTRAL LANCASHIRE

Programme Specification

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided.

Sources of information on the programme can be found in Section 17

<table>
<thead>
<tr>
<th>1. Awarding Institution / Body</th>
<th>University of Central Lancashire</th>
</tr>
</thead>
</table>
| 2. Teaching Institution and Location of Delivery | University of Central Lancashire  
Preston Campus |
| 3. University School/Centre | Physical Sciences and Computing |
| 4. External Accreditation | None |
| 5. Title of Final Award | MSc Synthetic Organic Chemistry |
| 6. Modes of Attendance offered | Full-time |
| 7. UCAS Code | |
| 8. Relevant Subject Benchmarking Group(s) | Chemistry  
QAA Masters Degree Characteristics |
| 9. Other external influences | Royal Society of Chemistry |
| 10. Date of production/revision of this form | March 2011  
June 2013  
Updated July 2015 |
| 11. Aims of the Programme | • To extend students’ comprehension of key chemical concepts and so provide them with an in-depth understanding of synthetic organic chemistry  
• To provide students with the ability to plan and carry out experiments independently and assess the significance of outcomes  
• To develop in students the ability to adapt and apply methodology to the solution of unfamiliar types of problems in synthetic organic chemistry  
• To instil a critical awareness of advances at the forefront of synthetic organic chemistry  
• To prepare students effectively for professional employment or doctoral studies in the area of synthetic organic chemistry |
## Learning Outcomes, Teaching, Learning and Assessment Methods

### A. Knowledge and Understanding

| A1. | Assess an unfamiliar problem in synthetic organic chemistry and be able to design and implement a suitable solution. |
| A2. | Present chemical information clearly and concisely |
| A4. | Effectively plan a project and record data and their critical analysis. |
| A5. | Design, plan and implement research questions to problems in synthetic organic chemistry including evaluation of hazards and environmental effects. |
| A6. | Develop general strategies for synthetic organic chemistry including the identification of additional information required and problems where there is not a unique solution. |

### Teaching and Learning Methods

Lectures, seminars, structured laboratory classes, practical projects

### Assessment methods

Exams, Laboratory reports, project report group and individual presentations

### B. Subject-specific skills

| B1. | Select appropriate techniques and procedures for the synthesis of specific compounds. |
| B2. | Demonstrate competence in the planning, design and execution of experiments |
| B3. | Evaluate different potential solutions to an unfamiliar problem. |
| B4. | Work independently, under minimum supervision, and be self-critical in the evaluation of risks, experimental procedures and outcomes. |
| B5. | Use an understanding of the limits of accuracy of experimental data to inform the planning of future work. |

### Teaching and Learning Methods

Lectures, seminars, structured laboratory classes, directed reading, group and individual projects and presentations.

### Assessment methods

Exams, Laboratory reports, project report group and individual presentations

### C. Thinking Skills

- Evaluate technical and theoretical information
- Adapt and apply methodology to the solution of unfamiliar problems.
- Assimilate, evaluate and present research results objectively.
- Undertake an individual research project, the outcome of which is potentially publishable.
- Assess the success of such a project

### Teaching and Learning Methods

Skills developed through seminars, data interpretation, case studies, practical work, research projects, presentations, problem solving.

### Assessment methods

Practical reports, essays and group and individual presentations.

### D. Other skills relevant to employability and personal development

- Problem-solving skills including the demonstration of self-direction and originality
- Communicate and interact with professionals from other disciplines
- Ability to exercise initiative and personal responsibility
- Ability to make decisions in complex and unpredictable situations
- Independent learning ability required for continuing professional development.
- Work independently under minimum supervision.
- Develop and write a research project within guidelines and be able to assess the success of such a project.
Teaching and Learning Methods
Skills developed through seminars, data interpretation, case studies, practical work, research projects, presentations, problem solving.

Assessment methods
Exams, Laboratory reports, project report group and individual presentations.

13. Programme Structures*

<table>
<thead>
<tr>
<th>Level</th>
<th>Module Code</th>
<th>Module Title</th>
<th>Credit Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 7</td>
<td>FZ4001</td>
<td>Research Methods</td>
<td>20</td>
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<tr>
<td></td>
<td>FZ4006</td>
<td>MSc Chemistry Research Project</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>FZ4601</td>
<td>Separation Science and Mass Spectrometry</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4603</td>
<td>Molecular Spectroscopy</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4605</td>
<td>Organic Synthetic Methods</td>
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</tr>
<tr>
<td></td>
<td>FZ4606</td>
<td>Applications in Synthesis</td>
<td>20</td>
</tr>
</tbody>
</table>

14. Awards and Credits*

- **MSc in Synthetic Organic Chemistry**
  Requires 180 credits at Level 7

- **MSc with Distinction, APM and MSc Chemistry Project ≥ 70%**

- **MSc with Merit, APM and MSc Chemistry Project ≥ 60%**

**Postgraduate Diploma in Synthetic Organic Chemistry**
Requires 120 credits at Level 7

**Postgraduate Certificate in Synthetic Organic Chemistry**
Requires 60 credits at Level 7

15. Personal Development Planning

PDP is embedded and monitored through the modules that make up the course, particularly the skills modules, and the personal tutor system. Students are introduced to the idea of PDP and career planning through sessions in induction week, and are provided with a PDP folder which provides information about opportunities for PDP and the School Guide to PDP called ‘Developing in all the Right Ways’ and provides a place to keep any information and/or evidence which the student wishes to keep to hand. Reflection and self-assessment on their achievements and goal setting is developed in many of the core modules and through the feedback provided on assessment coversheets. Regular meetings with personal tutors are used to discuss development and reflection.

16. Admissions criteria

Applicants will normally be required to have:

- 2:2 Hons Degree in Chemistry or equivalent qualifications and experience.

Applicants will be required to have a minimum level of proficiency in English Language equivalent to IELTS grade 6.5.
Please consult the UCLAN admissions department for the most up to date requirements.

17. Key sources of information about the programme

- University web site (www.uclan.ac.uk)
- School website (www.uclan.ac.uk/chemistry)
- Course Leader
- Admissions tutor
18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

<table>
<thead>
<tr>
<th>Level</th>
<th>Module Code</th>
<th>Module Title</th>
<th>Core (C), Compulsory (COMP) or Option (O)</th>
<th>Knowledge and understanding</th>
<th>Programme Learning Outcomes</th>
<th>Thinking Skills</th>
<th>Other skills relevant to employability and personal development</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
</tr>
<tr>
<td>7</td>
<td>FZ4001</td>
<td>Research Methods</td>
<td>COMP</td>
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<td></td>
<td>✔</td>
<td>✔</td>
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<tr>
<td></td>
<td>FZ4006</td>
<td>MSc Chemistry Research Project</td>
<td>C</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>FZ4601</td>
<td>Separation Science and Mass Spectrometry</td>
<td>COMP</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>FZ4603</td>
<td>Molecular Spectroscopy</td>
<td>COMP</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>FZ4605</td>
<td>Organic Synthetic Methods</td>
<td>COMP</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>FZ4606</td>
<td>Applications in Synthesis</td>
<td>COMP</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

Note: Mapping to other external frameworks, e.g. professional/statutory bodies, will be included within Student Course Handbooks.
1.11 Tuition fees

Your tuition fees include:

- Scheduled course tuition, academic, technical and administrative support, use of course equipment and facilities.
- Course related induction activities.
- Placement year academic support (where the course includes a placement year).
- Course assessment and awards.
- Access to the university’s library and online resources, including on-campus wifi, networked and remote access to the university’s virtual learning environment,
- Use of the university’s estate and resources for scheduled activities and learning support
- Dissertation, project and/or thesis printing and binding where the submission of printed and bound documents is a requirement for assessment of the module(s).
- Use of the university’s technical equipment and materials identified by the course teaching team as essential for the completion of the course.
- The extra items listed against your course in the table below.

<table>
<thead>
<tr>
<th>Course name</th>
<th>Additional items included in the tuition fees for your course</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc Synthetic Organic Chemistry</td>
<td>Laboratory coats</td>
</tr>
<tr>
<td></td>
<td>PPE glasses</td>
</tr>
</tbody>
</table>

Living costs:
Living costs are not included in your tuition fees. You will need to budget for these separately. Below is an indication of some typical living costs, but everyone is different and you are strongly advised to plan your own budget.

<table>
<thead>
<tr>
<th>Typical items</th>
<th>Estimated weekly costs lower range</th>
<th>Estimated weekly costs higher range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Halls of Residence based on a 42 week contract.</td>
<td>£79.03</td>
<td>£107.83</td>
</tr>
<tr>
<td>Private Halls of Residence (Living at home may reduce your accommodation costs)</td>
<td>£70 (£0)</td>
<td>£110</td>
</tr>
<tr>
<td>Food</td>
<td>£20</td>
<td>£30</td>
</tr>
<tr>
<td>Internet connection</td>
<td>£0</td>
<td>£12</td>
</tr>
</tbody>
</table>
(free wifi on campus, in university halls of residence and in some private accommodation)

<table>
<thead>
<tr>
<th>Toiletries/Laundry</th>
<th>£5</th>
<th>£15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas/electricity/water</td>
<td>£0</td>
<td>£20</td>
</tr>
<tr>
<td>(included within university halls of residence costs and some private accommodation – check your contract)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing, copying, stationery.</td>
<td>£2.50</td>
<td>£10</td>
</tr>
<tr>
<td>Travel expenses</td>
<td>£0</td>
<td>£40</td>
</tr>
<tr>
<td>(varies by method &amp; distance travelled e.g. on foot, bicycle, bus, train or car. If using bus or train check travel card / season ticket rates for savings).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University halls of residence and a good selection of private accommodation are situated on campus or a short walk from campus.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone or landline</td>
<td>£2.50</td>
<td>£10</td>
</tr>
<tr>
<td>Books</td>
<td>£5</td>
<td>£10</td>
</tr>
<tr>
<td>Leisure</td>
<td>£5</td>
<td>£25</td>
</tr>
<tr>
<td><strong>Total per week</strong></td>
<td><strong>£110</strong></td>
<td><strong>£282</strong></td>
</tr>
<tr>
<td><strong>Total for 42 weeks</strong></td>
<td><strong>£4,620</strong></td>
<td><strong>£11,844</strong></td>
</tr>
<tr>
<td><strong>Total for 52 weeks</strong></td>
<td><strong>£5,720</strong></td>
<td><strong>£14,664</strong></td>
</tr>
</tbody>
</table>

You may also need to budget for ‘one off’ or irregular costs

<table>
<thead>
<tr>
<th>Typical items</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedding</td>
<td>From £20</td>
</tr>
<tr>
<td>Clothes</td>
<td>Costs vary depending on your needs</td>
</tr>
<tr>
<td>TV licence</td>
<td>£145.50 per year</td>
</tr>
<tr>
<td>Insurances</td>
<td>Costs vary depending on your needs.</td>
</tr>
<tr>
<td>Computer/laptop/telephone</td>
<td>You will have access to University computers or laptops for your studies or you may have your own you wish to bring. If you are acquiring one to come to university the cost varies depending on model and whether it is new or refurbished.</td>
</tr>
<tr>
<td>Furniture, crockery etc.</td>
<td>Furnished accommodation may include all your needs. Check your accommodation to see what is included.</td>
</tr>
</tbody>
</table>

Additional costs.
The costs below are incurred by some but not all students and are not included within the Tuition Fees.

<table>
<thead>
<tr>
<th>Optional items – all courses</th>
<th>Estimated costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel to course related work placements, work experience, voluntary work, or site visits (for example costs of</td>
<td>Variable depending on the distance travelled and the method of transport chosen.</td>
</tr>
</tbody>
</table>
petrol, business level motor insurance cover, taxis, train fares, bus fares etc.).

| Library fines & charges | On time £0.00  
0-8 days overdue £0.10-0.50 per day  
9+ days overdue £0.50-£1.00 per day  
40+ days replacement cost and administrative charges/account suspension |
| Costs of obtaining medical or other evidence to support applications for extenuating circumstance applications relating to assessments. | For example a medical certificate may cost from £10. |
| Fees for arranging and invigilating course examination(s) off campus are payable by the student (Note this only applies where permitted by course regulations and approved by course leaders) | £300 |
| Printing of electronic books, journals etc.  
You are strongly recommended to access these electronically. | Estimated £0.10 per copy sheet |
| Printing of reports, course materials and other course documents, which have been supplied or are available electronically or in hard copy in the library. | Estimated £0.10 per copy sheet |