



University of Central Lancashire

Course Handbook FdSc Fire Safety Engineering

2019/20

Course Leader: Dr Khalid Khan
School of Engineering



Please read this Handbook in conjunction with the University's Student Handbook.

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.

COURSE SUBJECT TO CHANGE

This course is subject to formal course review and reapproval by the University during 2018/19 as part of its normal cycle of regular review (a process called Periodic Review). Course information and programme specifications are updated and reviewed as part of this process and course structure and content may be changed to enable the University to deliver a better quality of educational experience to students. This can be in response to various factors including: student feedback; annual reports from external examiners; feedback from the sector or industry advisors or as part of the regular review process by course teams.

This process may well result in changes to the structure and content of the current course as outlined in this Handbook. Any changes made as a result of the process will be immediately included in the course documentation and all students holding current offers will be provided with revised versions prior to the commencement of their programme. If you are not satisfied with the changes, you will be offered the opportunity to withdraw from the programme and, if required, reasonable support to transfer to another provider. The expected timetable for completion of this reapproval process is August 2019.

*subject to reapproval

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1. **Welcome to the course**

Firstly, congratulations in choosing Fire Safety Engineering at the University of Central Lancashire as your course and your career, you have now taken the first step along a challenging, interesting and rewarding career, both at a personal level and a financial level. The course is administered by the School of Engineering. The Fire Engineering course team has a wealth of experience of the fire engineering profession and the teaching of the subject. The fire team are some of the most research active staff within the school and this degree is supported by research in Fire and Explosion Studies which provides expert research in the study of fires, flames and related processes. Current and future research outcomes will be used in this course. Students are encouraged to implement their projects under research programmes of the School. This provides a stimulating learning environment for students, lectures and researchers and a prospect for future studies.

What do you expect from the next few years? Presumably you hope to graduate with a degree and you hope that this will lead to related employment. You expect to get high quality teaching from staff with experience in their own discipline; you expect to gain 'hands-on' experience of a range of equipment and experimental techniques; you expect to receive guidance and support from staff and you will expect to have the opportunity to take part in a range of social activities and to develop as an individual.

All the staff involved in this course are committed to meeting these expectations. However, in turn there are certain expectations of you. Firstly, it is important that you develop the capacity for independent learning. The overall teaching strategy within the School is one of 'Dependence to Independence', and therefore this will be expected increasingly as you progress through your course. Secondly, you are expected to develop, or improve, key skills such as numeracy, writing, self-organisation, working in a team, etc. Employers will certainly be looking for evidence of such skills! Finally, you are expected to take a responsible approach and an active role in your study, following the School and University policies and regulations.

This handbook tells you about some of these regulations and gives details about staff, assessments, handing in work, attendance requirements, safety procedures and guidance on communication and IT skills etc. In your induction file there is also further information about your role in the development of your Personal Development Portfolio which will form a central part of your personal development plan.

You will receive separate module booklets for each module you are studying. These will give detailed timetables and details of assessments. It is your responsibility to ensure that you receive these documents, are familiar with their contents and use them.

Dr Khalid Khan,
Course Leader for FdSc Fire Safety Engineering

1.1 Rationale, aims and learning outcomes of the course

Fire Safety Engineering has been taught at University of Central Lancashire since 1991. Fire Safety is an established discipline within construction, but Fire Safety Engineering is relatively new and of growing importance. It is only 15 years ago that the UK Building Regulations were adjusted to enable engineered (as opposed to 'prescribed') designs of building to be constructed. This legal change has led to greater flexibility in building design, providing the opportunity for innovative, creative and cost effective design. Allowing the use of materials and building services systems in ways not previously allowed. This has all come about as a result of great strides forward made in understanding fire dynamics and risk in the second half of the twentieth century.

As fire safety engineering develops and grows, more and more complex fire safety systems are being introduced into buildings, so it is essential that the understanding of fire engineering design is constantly developed and re-evaluated.

This course in Fire Safety Engineering will provide you with fundamental concepts of the subject and some workplace or practical context to the science. It is concerned with the study of fire prevention, fire development and containment, fire dynamics, fire decay and suppression, hazards and risk management, and the means by which fire consequence may be minimised in human, environmental and financial terms. This course provides a state-of-the-art, forward-looking programme that will prepare you as well as is possible for your future career. It draws upon the latest research as well as the centuries of experience of fire safety and related areas in the United Kingdom.

1.2 Course Team

You will mainly be taught by staff from the School of Engineering (UCLAN Fire) at the University. This list represents those who have particular roles in the delivery of the Course. We have included their qualifications so that you can see where their expertise lies.

Academic Staff

Jonathan Francis PhD

Academic Lead Energy, Fire and Sustainability

E-mail: jfrancis1@uclan.ac.uk Ext 3229 Room CM023

Khalid Khan BSc (Hons), MSc, PhD (Mathematical Modelling, Chaos Theory),

Course Leader, Senior Lecturer (Engineering Mathematics),

E-mail: kkhan5@uclan.ac.uk Ext 5684 Room JBF010

Tracy Bradford BSc, MSc (Fire Safety Engineering)

Retention Tutor/Senior Lecturer (Fire Safety Engineering)

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Simon Cable MA (Professional Training and Development) BSc (Hons) (Fire Engineering Management)

Senior Lecturer (Fire Safety and Fire Protection)

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Lecturer (Fire Safety Engineering).
E-mail: pmcurrie@uclan.ac.uk. Ext 3514 Room JB007

Tony Graham BSc (Hons), PhD, CPhys, MInstP, MIFireE, CEng, MEI
Senior Lecturer (Fire Engineering).
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Senior Lecturer (Fire Safety Engineering)
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James Fowler
Lecturer in Fire Studies
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Year Tutor for First Year CEPS Engineering students
Muqi Wulan
Computing & Technology Building, room CM037
☎ 01772 893247 (ext. 3247), ✉ mwulan@uclan.ac.uk

Retention Co-ordinator
Patrick Ryan
Computing & Technology Building, room CM024
☎ 01772 893273 (ext. 3273), ✉ pryan1@uclan.ac.uk

1.3 Expertise of staff

Teaching methods include lectures, seminars, workshops, laboratory work, project work, case studies, site visits. The mix of teaching methods is designed to motivate and challenge you, considering different learning styles to maximize your potential. Personal study also forms an integral part of the course. You will learn by a variety of methods including innovative information and communication technologies and practical case studies based on research outcomes achieved by the School staff.

The teaching staff comprises of a mixture of academics, industrial consultants and fire service professional with a vast number of years of experience in their field of expertise. There is a range of research expertise within the team ranging from CFD techniques for modelling and

simulating fire development to experimental scale-modelling of fire enclosures. Also, there is an Industrial Liaising Committee for this course, involving a number of leading companies in fire safety engineering and management, and Fire and Rescue Services

1.4 Academic Advisor

You will be assigned an Academic Advisor who will provide additional academic support during the year. They will be the first point of call for many of the questions that you might have during the year. Your Academic Advisor will be able to help you with personal development, including developing skills in self-awareness, reflection and action planning.



1.5 Administration details

Course Administration Service provides academic administration support for students and staff and are located in the following hubs which 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.

Computing and Technology Building

Art, Design and Fashion

Physical Sciences and Computing

Engineering

Journalism, Languages and Performance

Telephone: 01772 89 1994/1995

Email: CandTHub@uclan.ac.uk

1.6 Communication



The University expects you to use your UCLan email address and check regularly for messages from staff. If you send us email messages from other addresses they risk being filtered out as potential spam and discarded unread.

The School and course team use a wide variety of Student Communication Channels. UCLan staff will use all means of communication that enable them to contact the students.

The Administrative Hub (see section 1.5 for contact details)

- will use both email and official letters to communicate

The Course Team

- will normally communicate with you through Outlook using your UCLan email address. When emailing, include the module code in the subject field and/or any other relevant information to allow staff to help you. You should aim to check your email DAILY. (Staff will attempt to reply to your email within 48 hours).
- will use eLearn to make module and course level information available to you
 - ✚ has a physical notice board on the second floor of the Leighton Building outside the Physics Laboratories where the following information may be seen
 - ✚ Students Timetables
 - ✚ Student Assignment Calendar

- ✚ Student Academic Calendar
- ✚ Student list
- ✚ Laboratory Rotas
- ✚ News and events that are relevant to the course

- may contact you by phone (land line or mobile) or text your mobile, when it has not been possible to communicate with you via other routes. It is therefore essential that you ensure that ALL your details are up to date. You can check and change this via MyUCLan (https://my.uclan.ac.uk/BANP/twbkwbis.P_WWWLogin)
- may communicate with you by letter to request that you make an appointment to see an academic staff member (e.g. to discuss attendance issues).

1.7 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. The name of this person, their position and contact details can be found below.

The External Examiner for this course is Mr William Cox, Fire Engineering Consultant, Norwich, billcox4334@aol.com.

External Examiner reports for the Engineering courses can be accessed electronically via the Engineering@UCLan Blackboard pages



2. Structure of the course

2.1 Overall structure

Like most foundation degree courses this course is modular. This means that it is split up into particular areas of study, which are studied and assessed separately. Your foundation degree is composed of modules, which can be full modules with a weighting of 1.0, half modules (weighting 0.5) or double modules (weighting 2.0).

Typically, the foundation degree programmes consist of a mixture of half, full and (more rarely) double modules. **To achieve a Foundation Degree as a full-time student, you must pass 12 modules over the two years of the course – 6 modules per year.**

Modules are also given a credit weighting so that modules at different Universities can be compared, so 0.5 modules are worth 10 credits, 1.0 module 20 credits and 2.0 modules 40 credits.

You will see modules described by their title and having a code number. The module code consists of 2 letters and 4 numbers e.g. FV1201. The letters tell you which School delivers the module FV = Engineering. The first digit is normally the year of study.

Full time students will take six full modules in each of the two years of their studies: part time students will normally take 4 modules per year.

The academic year is divided into 2 semesters. Semester 1 runs from September 2019 to January 2020. Semester 2 runs from January 2020 to May 2020.

How the Course is Managed

At the front of this handbook you will find the names, telephone numbers, email addresses and room numbers of key people involved in the running of the fire courses. Do not hesitate to contact them if you are unclear about anything.

The FdSc Fire Safety Engineering course has a Course Leader who is responsible for planning and co-ordinating course delivery. The Course Leader is Khalid Khan room JBFirth Building JBF010, tel. 01772 895684, e-mail kkhan5@uclan.ac.uk. You should see the course leader if there is anything going on with you that cannot be handled by a module tutor, academic advisor or retention tutor.

Each module you will study has a Module Tutor. The Module Tutor is responsible for the planning, delivery and assessment of the module. In some cases the Course Leader may also be the Module Tutor. You should see the module tutor about any issues to do with their module (coursework, revision, etc.).

In addition, there is a Retention Tutor for the course. They are responsible for organising groups for tutorials and practical sessions and authorising extensions to coursework deadlines if you have an acceptable reason for not completing your work on time. This is the person you should see if you wish to request an extension on any piece of work.

The Course Leader, Retention Tutor and Module Tutors form the Course Team which meets regularly to review the progress of the Course and take account of your comments - both positive and negative. Adjustments will be made to the delivery of the Course if the Team feel that changes are necessary to make delivery and/or organisation better. At the end of the academic year all modules undergo review.

The University operates a quality assurance scheme which requires the Course Leader to report periodically to the Head of School to keep them in touch with progress. Every year the Course Leader submits a detailed report to the Head of School.

Your comments are important to the successful running and evolution of the Course and its delivery. For this reason you will be asked to meet with your fellow students and elect two Course Representatives from each year. They will meet with the course team (called the Staff Student Liaison Committee) once a semester to represent the views of the students. This is one route for your comments to be discussed and fed into the system. We will report how we have dealt with your comments back to the next meeting of the Staff Student Liaison Committee and minutes will be posted on the notice board.

We also encourage you to feedback comments to the Course Team on an *ad hoc* basis. Your feelings and thoughts are valuable and we want to hear them.

2.2 Modules available

Each module is a self-contained block of learning with defined aims, learning outcomes and assessment. A standard module is worth 20 credits. It equates to the learning activity expected from one sixth of a full-time undergraduate year. Modules may be developed as half or double modules with credit allocated up to a maximum of 120 credits per module.

Year 1 - FdSc Fire Safety Engineering - Full Time

The modules that you take in your first year (stage 1) are shown below. The timetable of when your classes are will be posted on the course page on BlackBoard and was given to you at induction.

In year 1 you will study 7 modules which will introduce you to the fundamental scientific principles of combustion and fire (FV1001) as well as the main principles of energy transfer, thermodynamics and fluid dynamics (FV1201). The primary goal is to provide students with general understanding and knowledge of combustion, fire and explosion phenomena.

The Skills for Science and Engineering module (FV1502) aims to develop your IT and basic maths skills in such a way that the activities of the programme both support the

role of the chosen career and integrate the first year programme of study, whilst developing the student's personal transferable skills.

In studying the module Buildings, Materials and Fire (FV1207) you will be introduce students to the functional requirements of materials for structures, the principles of construction methods and you will develop a knowledge and understanding of the behaviour, performance and limitations of construction materials.

You will also study Introduction to Engineering Analysis (FV1301), the aim of this module is to introduce basic maths concepts, to extend your range of mathematical concepts and develop basic techniques and provide a framework of mathematical techniques with which to analyse engineering problems; thence to apply them in the analysis and solution of common engineering problems. You will be required to practice solving applied mathematical problems.

You will also study modules in Safety and Fire Law (FV1101) and Community Fire Safety (FV1501) to broaden your knowledge and understanding of all aspects of Fire Safety Engineering

Table 1 - FdSc Fire Safety Engineering Year 1(full time)

Compulsory modules at level 4				
Module code	Module title	Credit value	Module Size	Semester
FV1001	Introduction To Combustion and Fire	20	1	Year long
FV1101	Safety and Fire Law	10	0.5	Year long
FV1201	Energy Transfer and Thermodynamics	20	1	Year long
FV1207	Buildings, Materials and Fire	20	1	Year long
FV1301	Introduction to Engineering Analysis	20	1	Year long
FV1501	Community Safety	20	1	Year long
FV1502	Skills for Science and Engineering	10	0.5	Year long

Year 2 - FdSc Fire Safety Engineering - Full Time

The material contained within year 2 of the course builds upon that delivered in year 1. All modules studied in the second year are full credit modules and yearlong in length.

Fluid Dynamics of Fire (FV2001) module aims to enable the students to assimilate the fundamental principles underlying fluid flow and to apply these to flames, fires, and explosions. The module is designed to develop theoretical and practical themes introduced in Level 1. The aim of this module is to further improve qualitative understanding of combustion, fire and explosion phenomena and develop skills in their quantification.

Fire and the Built Environment (FV2003) aims to develop an awareness and understanding of the impact of fires on the built environment, including building construction methods and materials used, smoke movement and control, law, regulations and standards. It explores different types of fire behaviour in the built environment.

In studying Fire Safety Management and Legislation (FV2004) it will enable you to develop an awareness and appreciation of the consequences of fire in the built environment. It will provide an understanding of the importance of fire safety systems, means of escape and the implementation of fire safety management systems and will develop an understanding of legal aspects of fire safety and other relevant legislation.

Structures, Materials and Fire (FV2207) will develop the students understanding of structural engineering, the behaviour of materials, and the effects of fire on the construction of multi-storey buildings. Students will investigate and appraise the design, construction, and performance of framed and masonry structures under normal and fire conditions

Following on from Community Fire Safety (FV1501) you will study Community Fire Safety Strategies (FV2501). This module will enable you to complete a case study and make a presentation in the area of community fire safety strategies. Students will be required to make strategic decisions and view problems from the top down.

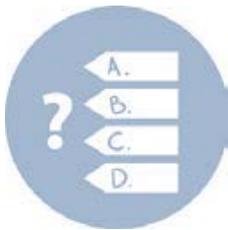
The Fire Science Project (FV2900) is a yearlong module. This module aims to provide you with the opportunity to develop research and evaluation skills. On an individual basis you will be required to carry out a study involving theoretical, computational, experimental or investigative analysis, or a combination of these. Through the learning and teaching strategy, the module will also enhance students' employability skills such as written communication skills, independent planning and execution of the project.

Table 2 - FdSc Fire Safety Engineering Year 2 (full time)

Compulsory modules at level 5				
Module code	Module title	Credit value	Module Size	Semester
FV2001	Fluid Dynamics of Fire	20	1	Year long
FV2003	Fire and the Built Environment	20	1	Year long
FV2004	Fire Safety Management and Legislation	20	1	Year long
FV2207	Structures, Materials and Fire	20	1	Year long
FV2501	Community Fire Safety Strategies	20	1	Year long
FV2900	Fire Science Project	20	1	Year long

In the previous section the learning outcomes of the FdSc Fire Safety Engineering course were listed. It is often useful to know which learning outcomes will be covered in the different modules; the map in the programme specification in Appendix B plots the different learning outcomes against each module.

Appendix A provides the programme specification and Appendix B gives typical examples of the module content details.



2.3 Course requirements

Stage 1 to Stage 2 (level 4 to level 5)

a) To proceed from year 1 to year 2 of the programme of study, normally you must pass ALL seven modules. If you do not pass all the modules you cannot normally progress into the second year of the degree. Exceptionally, if you fail a single module the Assessment Board has the discretion to allow you to retake that module in the subsequent academic year as an extra module (i.e. 7th module).

Another possibility, entirely at the discretion of the Assessment Board, if you fail one or more modules you may be permitted to re-take just the failed modules in the subsequent academic year as a part-time student. Once you have passed those modules you could then be allowed to progress to year 2 of the course in the subsequent academic year.

(You should, however, be aware that you cannot get a student loan or some other types of funding as a part-time student.)

You will not normally be allowed to attempt more than six additional modules in order to complete Stage One and progress to Stage Two.

b) If you fail a component of assessment and are required to be reassessed in that component, the maximum mark you can be awarded for any reassessed component is the minimum pass mark (i.e. 40% or P or S) and this mark will contribute to the overall aggregate mark for the module.

A module, or a component within it, may be reassessed only once, whether that is in-module reassessment or at the end of the module.

2.3.1 Classification of Awards

The University publishes the principles underpinning the way in which awards and results are decided in [Academic Regulations](#). Decisions about the overall classification of awards are made by Assessment Boards through the application of the academic and relevant course regulations.

2.4 Module Registration Options

Discussions about your progression through the course normally take place in February each year. It is an opportunity for you to make plans for your study over the next academic year. The course team will tell you about the various modules / combinations available and you will both agree on the most appropriate (and legal) course of study for you.

2.5 Study Time

2.5.1 Weekly timetable

A timetable will be available once you have enrolled on the programme, through the student portal.

2.5.2 Expected hours of study

20 credits is a standard module size and equals 200 notional learning hours.

The normal amount of work involved in achieving a successful outcome to your studies is to study for 10 hours per each credit you need to achieve – this includes attendance at UCLan and time spent in private study.

A single module completed in one semester will roughly require 12-15 hours per week during the semester. This consists of between 2 and 6 hours contact time with staff in lectures, tutorials or practical sessions and the rest in private study.

On average, then, you should be planning to do between 36 and 40 hours per week. Any lesser commitment is unlikely to produce a good degree. You should bear this in mind if you intend to undertake part-time employment or pursue other interests outside the curriculum.

2.5.3 Attendance Requirements



You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to:

C & T Hub (Admin) by telephone or by email.

The hub telephone number is: 01772 89 1994/1995

The hub email contact is CandTHub@uclan.ac.uk

Exceptional requests for leave must be made to the Programme Coordinator or nominee (usually the Course Leader). You should contact CAS as above and your request will be forwarded to the appropriate person.

For International Students under the Visas and Immigration (UKVI) Points Based System (PBS) - you **MUST** attend your course of study regularly; under PBS, UCLan is obliged to tell UKVI if you withdraw from a course, defer or suspend your studies, or if you fail to attend the course regularly.

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 the Student Attendance Monitoring system (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 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.

3. Approaches to teaching and learning

3.1 Expertise of staff

We're a recognised Centre of Excellence for fire safety engineering and our research centre in Fire and Hazards Science is second to none - if you're aiming for a senior role in fire safety, this is the course for you. This course builds on the training and educational programmes offered by the Institution of Fire Engineers and is a very hands-on course - you'll work with the training team at Lancashire Fire and Rescue HQ in your first year, and get the chance to work with fire safety engineering companies, all with the aim of boosting your employability when you graduate.

Our staff have expertise ranging from academia, research publications, industrial experience and some having worked as professional fire fighters.

3.2 Learning and teaching methods

Teaching methods include lectures, seminars, workshops, laboratory work, project work, case studies, site visits. The mix of teaching methods is designed to motivate and challenge you, considering different learning styles to maximize your potential. Personal study also forms an integral part of the course. You will learn by a variety of methods including innovative information and communication technologies and practical case studies based on research outcomes achieved by the School staff.

There will be regular lectures/practicals for all students. The modules run across both semesters. Some modules may run on a weekly basis throughout the year.

There will be regular tutorials in semester 1 for full time students.

All information will be available on Elearn.

The lectures will provide the framework of academic information which you must augment with your own study; the tutorials and practicals will give the students an opportunity to discuss specific topics and work through problems and to practice practical skills and techniques with the support from academic staff

3.3 Study skills

All of the courses within the school have a study skills module to assist with the development of your academic and employability skills.

There are a variety of services to support students and these include WISER <http://www.uclan.ac.uk/students/study/wiser/index.php>

LIS https://portal.uclan.ac.uk/webapps/portal/frameset.jsp?tab_tab_group_id= 25_1



3.4 Learning resources

3.4.1 Learning Information Services (LIS)

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.

Also, as well as access to thousands of books, audio-visual materials and journals, the [Library](#) also provides:

- Extensive opening hours (including 24/7 opening during term time)
- A wide range of different study environments for both individual and group study including bookable study rooms and pods
- Laptop loan scheme
- A large number of electronic resources which are available wherever you have access to the internet
- Media suite containing Apple Macs
- Self-service issue and return facilities
- Open access PCs and wireless access throughout the building
- Café and vending machines

3.4.2 Electronic Resources

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
7. A past exam paper (if there is an exam in the module)
8. Generic feedback on the examination paper

3.5 Personal development planning

While you are at university, you will learn many things. You already expect to learn lots of facts and techniques to do with chemistry, but you will also learn other things that you might not be aware of. You will learn how to study, how to work with other people, how to manage your time to meet deadlines, and so on. If you are to be an employable graduate 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

So, we have 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
- To 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.



3.6 Preparing for your career

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. 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.
- Later, you will investigate a range of options including jobs and work experience, postgraduate study 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 09:00-17:00 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.

4. Student Support

Perhaps the most important thing that the School of Engineering will give you is support. We will guide you through the subject and instil in you the critical and enquiring characteristics required of an investigator.

In your course you will be presented with a vast amount of information and knowledge. Equally important, though, is the manner in which you develop as an individual over that period, and the skills you acquire which can be used other than in investigative work. Employers are looking for skills such as:

- Self-organisation
- Assertiveness
- Good communication skills
- Team work
- Problem solving



4.1 Academic Advisors

An Academic advisor is allocated to each student in their first year. You will retain the same academic advisor for the duration of your study at UCLan. Your academic advisor is your first point of contact if you have any questions or problems while studying at UCLan. You should meet with your Academic advisor at least once every semester, but they are also available to help with any problems you may have during the year. Feel free to see them at other times should you want to. Your Academic advisor is there to provide you with support and guidance during your course. They will be unable to do so if you do not take the time and effort to meet with them and discuss your progress.

What will your Academic advisor do?

- offer academic advice throughout the year;
- monitor your progress and attainment through the year;
- advise you on your progress and issues such as option choices;
- in some instances, your academic advisor may refer you to the course leader or module leader for clarification of detailed academic problems;
- offer personal support, referring you to relevant University support services where appropriate;
- support you in the context of any disciplinary matters.

What are you expected to do?

- make use of your academic advisor;
- make sure you know where their office is and how to contact them;
- make sure they know you and have your current email address;
- watch out for emails, notices and memos asking you to make appointments or attend meetings with them;

- turn up for meetings and/or respond to requests for information.

4.2 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.

Assessment arrangements for students with a disability

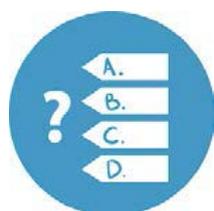
Arrangements are made for students who have a disability/learning difficulty for which valid supporting evidence can be made available. Contact the Disability Adviser for advice and information, disability@uclan.ac.uk

4.3 Students' Union

The Students' Union offers thousands of volunteering opportunities ranging from representative to other leadership roles. We also advertise paid work and employ student staff on a variety of roles. You can find out more information on our website:

<http://www.uclansu.co.uk/>

5. Assessment



5.1 Assessment Strategy

Please note that all modules will be assessed. You are expected to attempt all required assessments for each module for which you are registered, and to do so at the times scheduled unless authorised extensions, special arrangements for disability, or extenuating circumstances allow you to defer your assessment.

The Course Team recognise the main purpose of assessment as:

- the diagnosis of strengths and weaknesses of individual students
- encouragement to students to be involved in determining their own performance
- evaluation as to whether or not the student has met the learning outcomes of the module and programme in order to progress to the next level or achieve an exit award

Assessment is continuous and uses both formative and summative methods.

Formative assessment relates to the continuing and systematic appraisal of the degree of learning. This helps you by providing feedback on the appropriateness of your study skills in meeting the learning objectives. It also assists the academic staff by providing information as to the appropriateness of the learning environment in facilitating student learning. Formative assessment includes assessment strategies that encourage the student and tutor to build on the student's strengths and to plan remedial help to correct identified weaknesses. Formative assessment encourages the development of personal self-awareness and self-evaluation such that corrective change can be instigated by the individual.

The nature of formative assessment varies between modules. In some there are short tests or essays, while in others there is informal feedback via activities such as tutorials or discussion of experiment results during laboratory sessions.

It is important that we try to match assessment to the learning outcomes of each module. Sometimes we need to assess how well you have assimilated facts, sometimes we need to assess your understanding, and at other times your application of the facts. Often we need to test all of these learning outcomes at once. In addition, we need to assess skills, such as your ability to communicate your ideas.

The assessment methods and what we are trying to assess by the particular method are shown below:

Examinations Short answer questions are usually looking for how well you have learned factual information. Essay questions are looking for your understanding and critical analysis skills.

Presentations Your presentational skills under pressure are being assessed here, as is the ability to think on your feet using the facts that you have learned.

Essays Non-examination situation essays assess your understanding of the subject and ability to do research, as well as your written communication and critical analysis skills.

Case studies These assess the application of theory to practical situations. They also assess either your written or oral presentation skills when communicating your deliberations to the class or marker.

Projects These assess the application of the information that you have gained, and assesses your skills in bringing a large body of work together in a concise coherent report.

You will find a detailed breakdown of the assessments in the individual module booklets.

Presentation of Written Work

The way in which you present your work will be taken into account when arriving at the final grade for the assessment. To assist you in this regard, refer to the Student Guide to Assessment, produced by the School, that accompanies this handbook.

5.2 Notification of assignments and examination arrangements

The course team, through the retention tutors, try to spread the assessment load. Nevertheless, it is important that you plan your work carefully in order to meet assessment deadlines. You may have more than one deadline at the same time, and you are expected to manage your time sufficiently well to meet all deadlines whilst continuing with your attendance at classes.

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.

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. 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 at the Foster Hub.

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 the relevant retention tutor 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 the minimum pass mark for that element of assessment.
- Work submitted later than 5 working days after the published submission date will be awarded a mark of 0% for that element of assessment.
- Unauthorised late submission at resubmission will automatically be awarded a mark of 0% for that element of assessment.

Extenuating Circumstances

Some students face significant events in their personal life that occur after their course has started, which have a greater impact on their students than can be solved by the use of an extension. If this applies to you, the University is ready to support you both with regard to your course and your personal wellbeing through a process called Extenuating Circumstances (see Academic Regulations and Assessment Handbook).

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 (see [Academic Regulations](#)).

Further information is available on the Student Portal at: https://www.uclan.ac.uk/students/study/examinations_and_awards/extenuating_circumstances.php

You can apply for extenuating circumstances online via myUCLan. You must apply no later than 3 days after any examination or assessment submission date. Do not wait until you receive your assessment results to submit a claim. It is in your own interests to submit the claim as soon as possible.

You will be expected to re-submit claims for extenuating circumstances for each semester

Further information about the submission process is available at: https://www.uclan.ac.uk/students/study/examinations_and_awards/extenuating_circumstance_submission.php

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](#) and [Assessment Handbook](#)).

Feedback

UCLan is committed to giving you clear, legible and informative feedback for all your assessments ([Academic Regulations](#)). 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.

You will be provided with generic feedback for in-module formative and summative elements of assessment which contribute to a module within 15 working days of the scheduled submission or examination date. Generic feedback on end of module assessment and dissertations will be made available within 15 days of publication of results. Feedback may be oral, written, posted on a website or other.

5.3 Referencing

There are two ways of referring to a source: by using direct quotations, or by paraphrasing the author's words. Each of these is exemplified below.

Using direct quotations

A quotation integrated with the text, e.g.:

'The coal reserves,' said Thomas J. Johnson (1982, p.21) 'will not deplete as rapidly as oil reserves', and this claim is already being borne out by experience.

A quotation presented as an indented paragraph, eg:

Conflict within the marketing channel required its own definitions and one of the first of these was established by Stern and Gorman (1969, p.58). Their view was that a conflict was a process of system changes:

'... a change occurs in the task environment or within a channel member's organisation that eventually has implications for the channel members ... when the other affected members perceive the change as cause of frustration, a conflict situation emerges.'

Note the use of the three-full-stop device (...), separated by one space from the preceding and/or following words, to indicate a word or words have been omitted from the original. (The assumption is, of course, that the omission has *not* changed the sense of the author's words.)

Secondly, note the use of square brackets, [], to indicate that a word has been added or replaced to clarify (but not of course to alter) the author's original meaning, eg:

Original Registers are, then, types of text, not types of discourse, since they are not defined in terms of what kind of communication they represent.

Quotation '... [registers] are not defined in terms of what kind of communication they represent' (H.G. Widdowson, 1973).

Thirdly, note that where the original itself includes a word or words between inverted commas or quotation marks, a quotation should reproduce this by using double inverted commas between single ones, or vice-versa, eg:

Original One obvious development within a pedagogical grammar would be to use Searle's illocutionary acts to fill in Halliday's 'relevant models of language'.

Quotation As Widdowson (1973) points out: 'One obvious development within a pedagogical grammar would be to use Searle's illocutionary acts to fill in Halliday's "relevant models of language"', but this suggestion has yet to be followed up. (Alternatively: "...Halliday's 'relevant models of language'").

Fourthly, note that italics in the original may be reproduced by underlining in a quotation. If the underlining is not the original, then this should be made clear. The usual method is to add a note in brackets after the quotation: (my emphasis), (my underlining) or (emphasis added). If one wants to make it quite clear that the emphasis is the original's, one can add: (emphasis as in the original).

Paraphrasing the author's words

Paraphrasing is not simply altering a word here and there, but rather rewording the original - either to shorten/summarise or to expand/clarify. Paraphrasing often leads into 'grey areas' where one may be unsure of whether or not plagiarism could be alleged, so remember the golden rule: 'if in doubt, acknowledge'. In particular, in a lengthy piece of paraphrasing (say, several paragraphs) you should remind the reader at frequent intervals - at least once per paragraph - of the source.

Paraphrasing which shortens/summarises, eg:

Original 'There are many abusive parents for whom [therapy] groups may be the only answer, not only because of the quality of services offered, or the potential benefits they promise, but chiefly for the fact that a group of this type is the only service that some abusive parents will attend and participate in.' Blizinsky, M. (1982, p.311)

Paraphrase Blizinsky (1982:311) believes that therapy-group sessions may be the only answer for some abusive parents, being the only programme in which they will participate.

Or

Martin Blizinsky (1982:311) believes that therapy-group sessions may be the only answer for some abusive parents, being the only programme in which they will participate.

Paraphrasing which expands/clarifies, eg:

Original 'although photosynthesis is the principal autotrophic process, chemosynthesis also occurs'. (I. Pearson, 1978:135)

Paraphrase As Pearson points out (*English in Biological Sciences*, 1978, p.135) although photosynthesis - the process by which plants make their own food with the help of sunlight - is the major self-feeding process, synthesis involving chemical reactions also takes place.

How to cite bibliographic references

The following guidance notes, which aim to help students with bibliographic referencing, address the question of how, rather than whether, to acknowledge the sources.

Bibliographic references identify the work in question (usually either a book or an article) and give sufficient information on the author, title, publisher and date of publication for this identification to be quite clear and unambiguous.

Such references are normally written according to fixed conventions, which it is sensible to follow; one set of these conventions is outlined below.

For books: author's surname first, followed by the initials of his/her other name(s), then by the full title of the book *in italics* (these italics will be replaced by underlining in typescript or handwriting). There then follows the place of publication - usually a city - then the name of the publisher, and lastly the date of publication, e.g. Crane, D., *Invisible Colleges*. Chicago: University of Chicago Press, 1912.

Where there is more than one author, the examples are:

- Crystal, D. & Dour, D., *Advanced Conversational English*. Harlow: Longman, 1975.
- or
- Crystal, D. and Dour, D. *Advanced Conversational English*. Harlow: Longman, 1975.

- Brazil, D., Coulthard, M. & Johns, C., *Discourse Intonation and Language Teaching*. Harlow: Longman, 1980.
- or
- Brazil, D., Coulthard, M. and Johns, C., *Discourse Intonation and Language Teaching*. Harlow: Longman, 1980.

Where the book is a collection (of articles or monographs) rather than a single text, the examples are:

- Pride, J.B. ed. *Socio-linguistic Aspects of Language Learning and Teaching*. Oxford: Oxford University Press, 1979.

- Richards, J.C. and Nunan, D. eds. *Second Language Teacher Education*. Cambridge: Cambridge University Press, 1990.

For articles in a collection: similar to book references, but the author and title of the article come first, e.g. Pennington, M.C., A professional development focus for the language teaching practicum. In Richards, J.C. and Nunan, D. eds., *Second Language Teacher Education*. Cambridge: Cambridge University Press, 1990.

For articles in a journal (serial): much as above, except that information on the journal replaces that on the book (collection), e.g. Stieg, M.F., The information needs of historians. *College and Research Libraries*, 1981, 42(6), 549-560.

The figures '42(6)' mean 'volume 42, no. 6'; the figures '549-560' mean 'pages 549 to 560'. Note also that capital letters are not usual in the titles of articles (though in those of books, of course, they are).

Bibliographic (or general) references can be placed as footnotes to the text or, far better, listed alphabetically (by author) in a 'bibliography' at the end of the text. If a bibliography is used, references in the text need only state the author(s) and the publication date, e.g. Conflict within the marketing channel required its own definitions, and one of the first of these was established by Stern and Gorman (1969).

If the bibliography contains two or more publications by the same author(s) in the same year, identify them as 1969a, 1969b, etc.

If the text does make references to books/articles in this way, then the bibliography should put the publication date after the author's name, rather than at the end, e.g. Crane, D., 1972. *Invisible Colleges*. Chicago: University of Chicago Press.

Finally, minor differences from the above conventions may be found, as between one published bibliography and another, but these are unimportant; what does matter is that consistency in following one set of conventions is ensured. Not only should the information in

the bibliography be correct in every detail (author's name and initials, publisher's name, etc.), but complete typographical accuracy - spacing, punctuation, etc. is also very important. Thorough proof-reading is essential here, as in the rest of the text, and is a measure of the care that has been taken; conversely, a text full of 'typos' (typographical errors), misspellings, inconsistencies, etc. is not only evidence of carelessness but also very irritating for the audience - the reader - and thus obviously counter-productive.

5.4 Confidential material

Any work carried out involving other individuals or organisations will usually require ethical approval before work is undertaken.

Students must be aware of their ethical and legal responsibilities to respect confidentiality and maintain the anonymity of individuals and organisations within their assignments

5.5 Cheating, plagiarism, collusion or re-presentation

Please refer to the information included in section 6.6 of the University Student Handbook for full definitions. The University uses an online Assessment Tool called Turnitin. A pseudo-Turnitin assignment will be set up using the School space on Blackboard to allow students to check as many drafts as the system allows before their final submission to the 'official' Turnitin assignment. Students are required to self-submit their own assignment on Turnitin and will be given access to the Originality Reports arising from each submission. In operating Turnitin, Schools must take steps to ensure that the University's requirement for all summative assessment to be marked anonymously is not undermined and therefore Turnitin reports should either be anonymised or considered separately from marking. Turnitin may also be used to assist with plagiarism detection and collusion, where there is suspicion about individual piece(s) of work.

You are required to sign a declaration indicating that individual work submitted for an assessment is your own.

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](#) and the [Student Handbook](#) .

- Cheating is any deliberate attempt to deceive and covers a range of offences described in the [Student Handbook](#).
- 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.
- 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.

You may wish to alert students to specific resources available at UCLan or within your School designed to help students to understand the meaning of plagiarism and how to avoid it e.g. by cross referencing to guidelines on referencing assignments effectively – School or University materials.

Do you use Turnitin? If so, explain how it works and how your students should use it. Schools may require first year students to complete a formative essay which is fed through Turnitin and

discussed within seminars with relevant academic staff to help students to learn more about referencing their work.

The process of investigation and penalties which will be applied can be reviewed in the [Student Handbook](#). 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.
- 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.

6. Classification of Awards

The University publishes the principles underpinning the way in which awards and results are decided in [Academic Regulations](#). Decisions about the overall classification of awards are made by Assessment Boards through the application of the academic and relevant course regulations.



7. Student Feedback

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. They will be requesting that you complete the National Student Survey (during semester 2 for students in their final year of study) or the UCLan Student Survey (all other students).

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), members of Students' Council and School Presidents 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 support you in voicing your opinion, provide on-going advice and support, and encourage your involvement in all feedback opportunities. They will be requesting that you complete the National Student Survey (during semester 2 for students in their final year of study). Other feedback mechanisms exist, such as the SSLCs, which are mentioned below, and staff are encouraged to get module feedback either through feedback sessions or MEQ's (Module Evaluation Questionnaires).

7.1 Student Staff Liaison Committee meetings (SSLCs)

Details of the Protocol for the operation of SSLCs is included in section 8.2 of the University Student Handbook.

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.

Meetings will be facilitated using guidelines and a record of the meeting will be provided 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, academic advisor arrangements;
- Other aspects of University life relevant to student experience e.g. learning resources, IT, library;
- Any other issues raised by students or staff.

8. Appendices

8.1 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

1. Awarding Institution / Body	University of Central Lancashire
2. Teaching Institution	University of Central Lancashire School of Continuing and Professional Education, City University of Hong Kong (SCOPE, HKCityU)
3. University School/Centre	School of Engineering
4. External Accreditation	Energy Institute (EI), Chartered Institution of Building Services Engineers (CIBSE) and Institution of Fire Engineers (IFE)
5. Title of Final Award	FdSc Fire Safety Engineering
6. Modes of Attendance offered	Full time / Part time
7. UCAS Code	H121
8. Relevant Subject Benchmarking Group(s)	Engineering Foundation Degree Qualification Benchmark
9. Other external influences	Engineering Council Fire and Rescue Services
10. Date of production/revision of this form	June 2012 Updated July 2015
11. Aims of the Programme	
	<ul style="list-style-type: none">• To assimilate a general knowledge of fire safety engineering within construction and fire fields• To develop fire safety engineering principles and techniques• To inculcate generic construction engineering and key transferable skills• To develop reasoning and problem solving skills appropriate for an Engineering Technician operating in a fire safety engineering role within a construction workplace• To establish a foundation of knowledge and skill leading to further study appropriate for Incorporated and Chartered Engineers and construction managers

- To identify the major disciplines and roles of engineers at various levels within the construction industry; and to identify personal professional development needs and strategies for achievement within that framework
- To provide students with a broad and balanced knowledge in community engagement and participation and work based learning.

12. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. Demonstrate the ability to appraise the design, construction and performance of structures and their safety systems
- A2. Demonstrate the ability to assess the fire safety needs of buildings in a real or simulated workplace environment
- A3. Demonstrate knowledge of social, environmental, legal and management issues impacting upon fire safety engineering practice
- A4. Demonstrate knowledge of fundamental engineering science and mathematical analysis

Teaching and Learning Methods

Lectures, seminars, tutorials, workshops, directed reading, problem solving and case studies

Assessment methods

Assignment and design reports, portfolio, formal examinations and presentations and group projects

B. Subject-specific skills

- B1. Demonstrate the ability to apply accepted theory, tools and techniques of fire safety engineering in a real or simulated workplace
- B2. Demonstrate occupational competence in a range of work skills within the context of the construction and fire industries
- B3. Demonstrate the capacity to work with stakeholders across the construction industry
- B4. Demonstrate management of an engineering function

Teaching and Learning Methods

Lectures, seminars, tutorials, workshops, directed reading, problem solving and case studies

Assessment methods

Assignment and design reports, portfolio, formal examinations and presentations and group projects

C. Thinking Skills

- C1. Demonstrate reasoning skills within the context of fire safety engineering in order to identify suitable methods, materials or components
- C2. Demonstrate the ability to solve problems by engineering solutions.

Teaching and Learning Methods

Lectures, seminars, tutorials, workshops, directed reading, problem solving and case studies

Assessment methods

Assignment and design reports, portfolio, formal examinations and presentations and group projects

D. Other skills relevant to employability and personal development

- D1. Demonstrate the use of communication skills in oral and written form in a variety of real or simulated work related situations
- D2. Demonstrate the ability to use information resources and technology in order that information is effectively managed and presented

Teaching and Learning Methods

Lectures, seminars, tutorials, workshops, directed reading, problem solving and case studies

Assessment methods

Assignment and design reports, portfolio, formal examinations and presentations and group projects

13. Programme Structures*				14. Awards and Credits*
Level	Module Code	Module Title	Credit rating	
Level 5	FV2001	Fluid Dynamics of Fire	20	Foundation Degree in Fire Safety Engineering Requires 240 credits at level 4 or above including a minimum of 100 at Level 5 or above. APM ≥ 60% - Foundation Degree with Merit APM ≥ 70% Foundation Degree with Distinction
	FV2003	Fire and the Built Environment	20	
	FV2004	Fire Safety Management and Legislation	20	
	FV2207	Structures, Materials and Fire	20	
	FV2501	Community Fire Safety Strategies	20	
	FV2900	Fire Science Project	20	
Level 4	FV1001	Introduction To Combustion and Fire	20	Foundation Certificate in Fire Safety Engineering Requires 120 credits at Level 4 or above.
	FV1101	Safety and Fire Law	10	
	FV1201	Energy Transfer and Thermodynamics	20	
	FV1207	Buildings, Materials and Fire	20	
	FV1301	Introduction to Engineering Analysis	20	
	FV1501	Community Fire Safety	20	
	FV1502	Skills for Science and Engineering	10	
15. Personal Development Planning				
<p>Opportunities for reflective learning occur throughout the course, in particular in modules assessed by portfolio. The workplace modules enable students to develop generic and key transferable skills by engaging in work or simulated work practice, discussing and reflecting upon the experience and using a range of tools to report effectively on the experience within their portfolio. The nature and relations between the common engineering and construction professions is examined along with the level of engineering expertise associated with particular roles; and hence the student's current and possible future role and means to achieve competence for that role.</p>				
16. Admissions criteria				
<p>Programme Specifications include minimum entry requirements, including academic qualifications, together with appropriate experience and skills required for entry to study. These criteria may be expressed as a range rather than a specific grade. Amendments to entry requirements may have been made after these documents were published and you should consult the University's website for the most up to date information. Students will be informed of their personal minimum entry criteria in their offer letter.</p>				
<p>Applicants will be normally be required to have, one of:</p> <p>DDE at A2, BTEC ND MPP. IB 24P, Pass Access Course.</p> <p>In addition applicants will be required to have Maths and English GCSE at Grade C or equivalent.</p> <p>Applicants will be required to have a minimum level of proficiency in English Language equivalent to IELTS grade 6 with no subscore lower than 5.5</p> <p>Applications from individuals with non-standard qualifications, relevant work or life experience and who can demonstrate the ability to cope with and benefit from degree-level studies are welcome. If candidates have not studied recently they may be required to undertake an Access programme. APL/APEL will be assessed through standard University procedures.</p> <p>Please consult the UCLAN admissions department for the most up to date requirements.</p>				
17. Key sources of information about the programme				
<ul style="list-style-type: none"> University web site (www.uclan.ac.uk) UCAS web site (www.ucas.ac.uk) 				

• School website (www.uclan.ac.uk/forensic)

• Course Leader

• Admissions tutor

18. Curriculum Skills Map

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

Level	Module Code	Module Title	Core (C) or Option (O)	Programme Learning Outcomes											
				Knowledge and understanding				Subject-specific Skills				Thinking Skills		Other skills relevant to employability and personal development	
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	D1	D2
LEVEL 5	FV2001	Fluid Dynamics of Fire	COMP		✓		✓	✓					✓		
	FV2003	Fire and Built Environment	COMP	✓	✓			✓	✓			✓	✓	✓	
	FV2004	Fire Safety Management and Legislation	COMP	✓	✓	✓		✓	✓		✓				✓
	FV2207	Structures, Materials and Fire	COMP	✓	✓	✓			✓	✓		✓	✓	✓	✓
	FV2501	Community Fire Safety Strategies	COMP			✓		✓				✓		✓	✓
	FV2900	Fire Science Project	C	✓	✓	✓		✓		✓	✓	✓		✓	✓
LEVEL 4	FV1001	Introduction to Combustion and Fire	COMP				✓	✓	✓			✓	✓	✓	
	FV1101	Safety and Fire Law	COMP		✓	✓								✓	✓
	FV1201	Energy Transfer and Thermodynamics	COMP	✓			✓	✓				✓			
	FV1207	Buildings, Materials and Fire	COMP	✓	✓	✓		✓				✓		✓	
	FV1301	Introduction to Engineering Analysis	COMP	✓			✓	✓							✓
	FV1501	Community Fire Safety	COMP			✓		✓		✓		✓	✓	✓	✓
	FV1502	Skills for Science and Engineering	COMP				✓	✓	✓	✓			✓	✓	✓

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

8.2 Appendix B FdSc Fire Safety Engineering Module Content

These are the modules that are included in the FdSc Fire Safety Engineering. We have given an overview of their typical content here.

You should note that all modules are supported by BlackBoard, and you should familiarise yourself with this computer-based system. You will be given guidance on using BlackBoard at the beginning of your course: details are also available on the School's website (www.uclan.ac.uk/forensic).

Year 1

Introduction to Combustion and Fire [FV1001]

This module introduces the learner to the fundamental scientific principles of combustion and fire. The primary goal is to provide students with general understanding and knowledge of combustion, fire and explosion phenomena. The main definitions, approaches and techniques developed in combustion and fire science and engineering are introduced to set the scene for the further in-depth studies especially in the Year 3 fire investigation module. Alongside the introduction to fires and combustion, the module provides basic information and knowledge from related disciplines (chemical kinetics and thermodynamics, fluid dynamics, heat and mass transfer). This introduces all necessary elements which are required to start a consistent further education in the diverse and multidisciplinary area of fire safety.

Safety and Fire Law [FV1101]

This module will provide a general understanding of the nature and extent of the legal system operating in the UK/HK. It will also provide the student with knowledge and understanding of the principles underlying safety law, the creation of the employment relationship, to include the rights and obligations of both parties.

Energy Transfer and Thermodynamics [FV1201]

This module introduces students the main principles of energy transfer, thermodynamics and fluid dynamics. The main definitions, approaches and techniques are introduced to set the scene for the further in-depth studies through all other energy related modules in the energy and fire safety engineering curriculum. Alongside the introduction to energy transfer and thermodynamics, the module provides basic information and knowledge from related disciplines (general physics, fluid dynamics, heat and mass transfer). This introduces all necessary elements, which are required to start a consistent further education in building and fire safety engineering.

Buildings, Materials and Fire [FV1207]

This module will introduce the student to the principles of construction methods used in small scale, low-rise construction in the United Kingdom. The module will also introduce the student to the less familiar forms of construction used and enable the student to focus study on the areas of construction technology of particular interest on their course.

Introduction to Engineering Analysis [FV1301]

This module will allow the student to establish fundamental mathematical skills and provide a framework of mathematical techniques with which to analyse engineering problems; thence to apply them in the analysis and solution of common engineering problems. Students are required to practice solving applied mathematical problems.

Community Safety [FV1501]

To provide an underpinning framework to develop the student to provide community safety advice and improve their overall awareness of factors which can prevent the safety messages from getting to the groups most at risk within the community.

Skills for Fire Studies [FV1502]

This module aims to enable the students to develop the mathematical, statistical, analytical, information technology, communication and research skills, which are required to progress through the course. This will include a range of presentation and communication skills using a variety of media.

Year 2

Fluid Dynamics of Fires [FV2001]

This module will enable the students to assimilate the fundamental principles underlying fluid flow and to apply these to flames, fires, and explosions. The module is designed to develop theoretical and practical themes introduced in Level 1. The aim of this module is to further improve qualitative understanding of combustion, fire and explosion phenomena and develop skills in their quantification.

Fire and the Built Environment [FV2003]

This module aims to develop an awareness and understanding of the impact of fires on the built environment, including building construction methods and materials used, smoke movement and control, law, regulations and standards. It explores different types of fire behaviour in the built environment. The module provides students with case studies of the impact of fires on buildings nationally (UK/HK) and internationally. Through the learning and teaching strategy, the module will also enhance students' employability skills such as independent working, analysis, problem solving, presentations and working with others.

Fire Safety Management and Legislation [FV2004]

This module will enable the student to develop an awareness and appreciation of the consequences of fire in the built environment. It will provide an understanding of the importance of fire safety systems, means of escape and the implementation of fire safety management systems and will develop an understanding of legal aspects of fire safety and other relevant legislation

Community Fire Safety Strategies [FV2501]

This module follows on from the Community Safety in year 1 and builds on the knowledge gained to develop further skills to work effectively and efficiently with partner agencies. Students will be asked to make strategic decisions and view problems from the top down. It will introduce the concept of investigating the cause behind the cause, which will develop research skills to influence further risk reduction strategies.

Structures, Materials and Fire [FV2207]

This module will develop the students understanding of the construction of multi-storey buildings. Students will investigate and appraise the design, construction, and performance of framed and masonry structures.

Fire Science Project [FV2900]

This module aims to provide the students with the opportunity to develop research and evaluation skills. On an individual basis the student will be required to carry out a study involving theoretical, computational, experimental or investigative analysis, or a combination of these. Through the learning and teaching strategy, the module will also enhance students'

employability skills such as written communication skills, independent planning and execution of the project.