Course Handbook

MSc Fire Scene Investigation

2018/19

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School of Engineering

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

Contents

1. Welcome to the course

This course has been developed in conjunction with the Fire and Rescue Service and aims to provide the skills and knowledge required to carry out investigations of complex fire incidents. The course is delivered by experienced university staff utilising the skills and experiences of visiting lectures to enhance your learning experience.

Students who graduate will gain the award of Master of Science in Fire Scene Investigation. To achieve this you are entitled to expect high quality teaching from staff with experience in their own discipline. During the course you can expect to gain 'hands-on' experience using a range of equipment and experimental techniques. You will receive guidance and support from staff that have specialised in the discipline of fire investigation and fire science for many years.

All the staff involved in this course are committed to meeting your expectations. However, in turn there are certain expectations of you as studying at this level requires you to demonstrate that you have the mental capacity, self-motivation and commitment to achieve this award. Only those students with the personal qualities and attributes to do this will achieve the final award.

This handbook provides information about some of these regulations. It also gives details about staff, assessments, coursework, attendance requirements, safety procedures and guidance on communication and IT skills. 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.

1.1 Rationale, aims and learning outcomes of the course

The programme leads to the award of the Degree of Master of Science in Fire Scene Investigation.

The level of education provided by the programme is appropriate to those students who will eventually hold senior positions within the fire-investigations arena. Throughout the programme emphasis will be placed on self-motivation, critical thinking and analytical depth.

Fire is not discriminatory. It maims, kills and destroys property irrespective of socio economic status and race. Effective fire safety is embedded in the concepts of safe building design, safe product design, risk management and community education. For over a decade the University has excelled in delivering these concepts through research initiatives and the delivery of undergraduate and postgraduate programmes and hence played a significant part in reducing the impact of fire on society. Inevitably serious fires do occur and a fundamental process in learning from these incidents is the conduct of an effective and efficient fire investigation to determine origin and cause.

Fire investigative practice underpins the proactive concepts of fire safety by determining what factors contributed to the outbreak. The information gained informs product specifications, building codes and community education programmes. Through this cyclic process accidental fire incidents and their consequences are reduced.

Some of the modules you will be taking on the course are common to several programmes and as such, you will be studying alongside those students – both full and part time. This will, no doubt, help you to gain a good insight into the nature and scope of these closely related disciplines.

All courses at the University have overall aims and learning outcomes which describe what you will achieve on your course of study.

What are the Aims of the Course?

The MSc Fire Scene Investigation has the following aims:

- To provide an in-depth study of fire scene investigation
- To develop the critical and analytical skills involving the principles, practices and techniques of that fire scene investigation
- To develop competence in research methods and presentation of information
- To develop skills in solving problems both independently and as a team member to a level commensurate to the master's level

What are the Learning Outcomes of the Course?

This list of the major learning outcomes of the course will give you an idea of the global learning goals. However in the module booklets you will see the syllabi of the individual modules and their learning outcomes will provide more information. You could also refer to the module descriptors, which are in effect summaries of the module booklets and are available through our website or on e-Learn.

At the end of the course you will have a knowledge and understanding of and be able to:

A. Knowledge and understanding

A1. The role of the expert witness.

A2. Fluid mechanics, heat transfer and combustion science applied to buildings fires and fire analysis.

A3. Development of enclosed fires combustion products in buildings.

A4. Principles of fire modelling by computational fluid dynamics.

A5. Mechanisms of fire suppression and its impact on the environment and an investigation.

A6. Disaster and emergency planning at local and global levels.

A7. Characteristics of technological accidents and catastrophes, and methods of their investigation.

A8. Fire investigation procedures and constraints.

B. Subject Specific Skills

B1. Implement fire scene investigation solutions to problems.

B2. Effectively communicate fire investigation solutions with both experts and non-experts.

B3. Research information from literature/manuals/internet.

B4. Evaluate different potential solutions to a problem.

B5. Analyse a problem involving the specific aspects of fire scene investigation and be able to design and implement a suitable solution.

B6. Design, plan and implement solutions to problems in fire scene investigation either independently and/or as a team member and be capable of analysing the effectiveness of such solutions

C. Thinking Skills

C1. Evaluate technical and non-technical information.

C2. Plan and conduct a practical research project.

C3. Synthesise knowledge.

C4. Assimilate ideas quickly.

D. Transferable Skills/Key Skills

D1. Work to deadlines.

D2. Work in a team.

D3. Work independently under minimum supervision.

D4. Generate original ideas

D5. Communicate results

D6. Develop and write a research project within guidelines and be able to assess the success of such a project.

1.2 Course Team

This list represents those co-ordinating particular areas, or 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

Simon Cable	BSc, MA (Professional Training and Development), NEBOSH/Dip, CMIOSH, IEMA, MBCI. Senior Lecturer (Fire Safety and Fire Protection) E-mail SCable@uclan.ac.uk Ext 5680 Room JBF011
Tracy Bradford	BSc, MSc (Fire Safety Engineering) Senior Lecturer (Fire Safety Engineering). E-mail: tebradford@uclan.ac.uk Ext 3237 Room JBF011
J Francis	JBEng (Hons) PhD CEng MEI Fire Academic Lead E-mail JFrancis1@uclan.ac.uk Ext Room CM023
Paul Currie	BEng, PhD CENg, MIFireE Lecturer (Fire Safety Engineering). E-mail: pmcurrie@uclan.ac.uk Ext 3514 Room JBF007
Tony Graham	BSc (Hons), PhD, CPhys, MInstP, MIFireE, CEng, MEI Senior Lecturer (Fire Engineering). E-mail: tlgraham2@uclan.ac.uk Ext 5379 Room JBF007
Stephen Andrews	MSc, Forensic Fire Investigator Senior Lecturer e-mail SPAndrews@uclan.ac.uk Ext 3589 Room JBF002

Shephard Ndlovu	BSc (Hons), MIFE, IFSM, FHEA Lecturer (Fire Safety Engineering) e-mail: sndlovu@uclan.ac.uk Ext 3225 Room JBF010
Weiming Liu	Lecturer Fire Safety Engineering e-mail wliu1@uclan.ac.uk, Ext 3239 Room JB003 **Course Leader MSc Fire Scene Investigation**
Jinghua Zhang	BEng, MSc (Intelligence Engineering, distinction), PhD (Electrical Engineering and Electronics) Lecturer (Fire Safety Engineering) e-mail: jzhang7@uclan.ac.uk Ext 5686 Room JBF003
Jianqiang Mai	BEng, MEng (Fluid Machinery), PhD (Mechanical Engineering) Senior Lecturer (Fire Engineering) Email: JMai@uclan.ac.uk Ext 4335 Room JBF007

1.3 Expertise of staff

The course is a partnership arrangement with the fire and rescue service and whilst most of the course is delivered by university staff, made up of fire investigation professionals and academics. Some sessions will be delivered by visiting lecturers who work in the fire/public sector; they will be invited to speak with authority from their own experience and expertise.

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.

Allen Building
Medicine
Dentistry

telephone: 01772 895566
email: AllenHub@uclan.ac.uk

Harris Building

Lancashire Law School
Humanities and the Social Sciences
Centre for Excellence in Learning and Teaching
telephone: 01772 891996/891997
email: HarrisHub@uclan.ac.uk

Foster Building

Forensic and Applied Sciences
Pharmacy and Biomedical Sciences
Psychology
Physical Sciences
telephone: 01772 891990/891991
email: FosterHub@uclan.ac.uk

Computing and Technology Building

Art, Design and Fashion
Computing
Journalism, Media and Performance
Engineering
telephone: 01772 891994/891995
email: CandTHub@uclan.ac.uk

Greenbank Building

Sport and Wellbeing
Management
Business
telephone: 01772 891992/891993
email: GreenbankHub@uclan.ac.uk

Brook Building

Community, Health and Midwifery
Nursing
Health Sciences
Social Work, Care and Community
telephone: 01772 891992/891993
email: BrookHub@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. Staff aim to reply to emails within one working day.

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 home institution can be found below. If you wish to make contact with your External Examiner, you should do this through your Course Leader and not directly. External Examiner reports will be made available to you electronically through the e-learn platform. 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.

External Examiner

Clive Steele, Principle lecturer in Applied Sciences, London South bank University (LSBU)

2. Structure of the course

2.1 Overall structure

The Master of Science Fire Scene Investigation consists of 9 taught modules completed over two years. Depending on whether you commence in January or September progression will normally take the following routes.

January Enrolment	September Enrolment
FV4101 Accidents & Catastrophes	FV4001 Fires in buildings
FV4003 Computational Fluid Dynamics	FV4101 Accidents & Catastrophes
FV4001 Fires in buildings	FV4003 Computational Fluid Dynamics
FV4601 Research Methods	FV4601 Research Methods
FV4104 Practical Fire Investigation	FV4104 Practical Fire Investigation
FZ4002 Expert Witness	FZ4002 Expert Witness
FV4901 Dissertation (Triple Module)	FV4901Dissertation (Triple Module)

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. These are the modules that are included in the MSc Fire Scene Investigation. We have given an overview of their content here.

FV4001 Fires in Buildings

This module develops understanding with respect to the fundamental principles underlying fires in buildings, dominant mechanisms controlling spread of fires and fire development in enclosures and buildings, smoke movement, fire resistance and fire severity, to characterise the stages of fire development, human behaviour in fires and evacuation, the mechanism of fire suppression agents

FV4003 Computational Fluid Dynamics

CFD modelling techniques can be used to model fire development and extract a comprehensive transient picture of a real fire scenario with the objective of quantitatively predicting the fire behaviour in relevant situations. Within the context of fire investigation this is growing methodology used by the fire investigator to test various hypotheses. The module is designed to provide engineering and science majors with fundamental knowledge and skills of numerical studies of fluid flows. This includes multiphase and reacting flows and combustion. Deep pursued. In addition, numerical programming skills will be developed in order to allow understanding of both numerical and physical aspects of the subject is reengineering of open modules of available CFD software according to the requirements of particular fluid dynamics problems to be solved. Public domain NIST's Fire Dynamics Simulator (FDS) will be assumed for practical support of this module.

FV4101 Accidents and Catastrophes

This module aims to develop an awareness and understanding of accident and catastrophe phenomena, their impact on society, and disaster and emergency planning. This module will help the students to develop analytical and investigative skills applied to accident and catastrophes, and their prevention

FV4104 Practical Fire Investigation

The module will develop your ability to effectively undertake the practical investigation of a fire scene while ensuring the requirements with respect to safety, scene preservation, evidence collection and presentation are fully achieved.

FV4601 Research Methods

This module is concerned with research methodology relevant to scientists in both academic and commercial environments. This module will introduce basic aspects of conducting research, reinforced by practical exercises. The aim of the module is to provide the student with transferable career skills that will allow the student to communicate scientific ideas via a variety of media and to manage and plan projects. It will also give insight into some of the legal and ethical issues surrounding scientific work. The module also prepares the students for the MSc Research Project module.

FZ4002 Expert Witness in the Legal Process

Communication skills are vital for a forensic scientist to pass on important information. Nowhere is this more important than when acting in the capacity of an expert witness. This module provides background and training in these important areas.

FV4901 Fire Science Dissertation

You will spend at least 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 findings.

2.2 Study Time

2.2.1 Weekly timetable

The weekly timetable can be accessed through the student portal

2.2.2 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: CandTHubAttendance@uclan.ac.uk

Strict rules are imposed on the University regarding International students by UK Border Agency; under PBS UCLan is obliged to tell UKVI if you withdraw from the course, defer or suspend your studies or if you fail to attend the course regularly. Any journeys home must be authorised.

3. Approaches to teaching and learning

3.1 Expertise of staff

Whilst most of the course is delivered by university staff, specialists with a fire/public sector background will be invited to speak with authority from their own experience and expertise.

3.2 Learning and teaching methods

There are formal lectures followed up by group tutorials in which the subject of the lecture is explored in detail. Practical skills are developed through practical sessions, which may incorporate individual or group exercises and projects. You are also expected to engage in independent study.

For some modules, you will also be studying with students on other courses and both full and part time students. This will also allow you to interact and learn from others with different backgrounds and expertise.

As with all university education ***you*** are responsible for your own learning. The lectures are merely the starting point and you will have to undertake a substantial amount of individual study in order to succeed.

The aim of the School is to promote deep and active learning and for students to achieve an appropriate balance between (a) the accumulation of subject specific knowledge; (b) the

understanding of subject-specific concepts; (c) the application of these and (d) the development of general investigative and presentational skills.

These learning experiences are designed to help you to master the problems surrounding complex fire investigations.

The assessment methods for the modules are different; some will be by examination, some by written assessment, presentations or a combination of these.

The final year will include a dissertation or a project report and use more challenging data handling exercises.

3.3 Learning resources

3.4.1 Learning Information Services (LIS)

Extensive fire related resources can be accessed from the student portal.

3.4.2 Electronic Resources

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.

3.5 Personal development planning

3.6 Preparing for your career

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.

4. Student Support

4.1 Academic Advisors

You will be assigned a Personal Tutor who will assist with Academic related problems. You will find out more about them and their role in induction week. 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.

You should meet your personal tutor during induction week and time has been allocated on the induction timetable to enable to you do this. During this meeting you should make arrangements about the process by which future regular contact will be maintained. You should meet with your personal tutor regularly. You should have at least four meetings in Year 1, with at least three of these being 'one to one' meetings. There should be at least three contacts in Year 2, one of which should be 'one to one' and two during Year 3.

There will be appointment sheets by staff offices so that you can arrange meetings either by booking an appointment or emailing them (details of this are at the front of the booklet). Throughout the year contact with your personal tutor is usually maintained through e-mail, you should check your UNIVERSITY e-mail account regularly.

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

If you need to get advice in an emergency or when your personal tutor is not available then you can go and see your retention tutor or course leader.

If you have good reason for wishing to change your personal tutor, then this can be arranged by contacting the Course Leader.

4.2 Students with disabilities

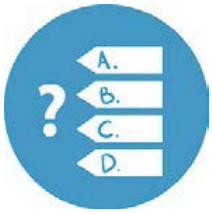
If you have a disability that may affect your studies, please either contact the Disability Advisory Service - disability@uclan.ac.uk - or let one of the course team know as soon as possible. With your agreement information will be passed on to the Disability Advisory Service. The University will make 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

4.3 Students' Union One Stop Shop

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.

If your course is for students not studying on the main campus please include the following : – as one of the thousands of students who are not studying on the main UCLan campus in Preston, the Students Union is still your union, please check http://www.uclansu.co.uk/ for full details on what we may be running in your partner institution.

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.
Oral 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.
Dissertation	this assesses 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.

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. Examinations take place at the end of Semester 2; times and venues will be notified via the timetable.

5.3 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.

6. Classification of Awards

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

Pass a total of nine modules with an overall APM of 50% or better.

The award will be an MSc in Fire Scene Investigation.

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:

Pass a total of nine modules with an overall APM of 70% or better.

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:

Pass a total of nine modules with an overall APM of 60% or better

Exit Awards

Sometimes people fail modules or withdraw from a programme of study for personal reasons. In these cases the exam board have the power to award an 'exit award'. The number of modules at each level/stage that are needed to qualify for a particular award are as follows:

Award	Credits/levels required
PGDip in Fire Scene Investigation	120 credits (6 modules) at level 7 including (i) FV4101 Accidents and Catastrophes (ii) FV4104 Practical Fire Investigation
PGCert in Fire Scene Investigation	60 credits (3 modules) at level 7 including: (i) FV4101 Accidents and Catastrophes (ii) FV4104 Practical Fire Investigation
PGCert in Fire Scene Investigation	60 credits (3 modules) at level 7 including: (i) FV4104 Practical Fire Investigation

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.

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,

7.1 Student Staff Liaison Committee meetings (SSLCs)

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.

8. Appendices

8.1 Programme Specification(s)

Appendix C 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 and Location of Delivery	University of Central Lancashire (UCLan) Preston Campus School of Continuing and Professional Education, Hong Kong City University (SCOPE, HKCityU)
3. University Department/Centre	School of Engineering
4. External Accreditation	Energy Institute (EI): Chartered Engineer (CEng) as further learning Institution of Fire Engineers (IFE): membership
5. Title of Final Award	MSc Fire Scene Investigation

6. Modes of Attendance offered	Full-time/Part Time
7. UCAS Code	
8. Relevant Subject Benchmarking Group(s)	
9. Other external influences	Engineering Council Fire and Rescue Services
10. Date of production/revision of this form	June 2013 Updated September 2013
11. Aims of the Programme	
• To provide an in-depth study of fire scene investigation.	
• To develop the critical and analytical skills involving the principles, practices and techniques of that fire scene investigation.	
• To develop competence in research methods and presentation of information.	
• To develop skills in solving problems both independently and as a team member to a level commensurate to the master's level.	

12. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1. Understand the role of the expert witness.
A2. Demonstrate fundamental knowledge of fluid mechanics, heat transfer and combustion science applied to buildings fires and fire analysis.
A3. Critically review the development of enclosed fires combustion products in buildings.
A4. Evaluate the use of fire modelling by computational fluid dynamics.
A5. Quantitatively and critically review the mechanisms of fire suppression and its impact on the environment and an investigation.
A6. Demonstrate and critically evaluate the disaster and emergency planning strategies at local and global levels.
A7. Understand the characteristics of technological accidents and catastrophes, and methods of their investigation.
A8. Critically evaluate the use of fire investigation procedures and constraints.

Teaching and Learning Methods

Lectures, seminars, structured laboratory classes, directed reading, preparation of the research project, presentations and demonstrations.

Assessment methods

Preparation of case notes, essays, reports, practical reports, research project, group and individual presentations and end of module seen and unseen examinations.

B. Subject-specific skills

B1. Implement fire scene investigation solutions to problems
B2. Communicate fire investigation solutions with both experts and non-experts effectively
B3. Research information from literature/manuals/internet
B4. Evaluate different potential solutions to a problem
B5. Analyse a problem involving the specific aspects of fire scene investigation and be able to design and implement a suitable solution
B6. Design, plan and implement solutions to problems in fire scene investigation either independently and/or as a team member and be capable of analysing the effectiveness of such solutions

Teaching and Learning Methods

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

Assessment methods

Preparation of case notes, moot court exercises, practical reports, and group and individual presentations.

C. Thinking Skills

C1. Evaluate technical and non-technical information

C2. Plan and conduct a practical research project
C3. Synthesise knowledge
C4. Assimilate ideas quickly

Teaching and Learning Methods

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

Assessment methods

Preparation of case notes, essays, reports, practical reports, group and individual presentations.

D. Other skills relevant to employability and personal development

D1. Work to deadlines
D2. Work in a team
D3. Work independently under minimum supervision.
D4. Generate original ideas
D5. Communicate results
D6. 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 lectures, data interpretation, case studies, practical work, research projects, presentations, problem solving.

Assessment methods

Preparation of case notes, essays, reports, practical reports, group and individual presentations.

13. Programme Structures*

14. Awards and Credits*

Level	Module Code	Module Title	Credit rating
Level 7	FV4001	Fires in Buildings	20
	FV4003	Computational Fluid Dynamics	20
	FV4101	Accidents and Catastrophes	20
	FV4104	Practical Fire Investigation	20
	FV4601	Research Methods	20
	FZ4002	The Expert Witness in the Legal Process	20

Master's Degree in Fire Scene Investigation

Requires 180 credits at Level 7

MSc with Distinction APM and FV4901 ≥ 70%

	FV4901	Fire Science Dissertation	60	MSc with Merit APM and FV4901 ≥ 60% **Postgraduate Diploma in Fire Scene Investigation** Requires 120 credits at Level 7 including FV4101 and FV4104 **Postgraduate Certificate in Fire Scene Investigation** Requires 60 credits at Level 7 including FV4101 and FV4104 **Postgraduate Certificate in Fire Investigation** Requires 60 credits at Level 7 including FV4104

15. Personal Development Planning

PDP is delivered and monitored through project modules and the personal tutor system. Students are provided with a PDP handbook and an introductory lecture on it during induction week.

16. Admissions criteria

Applicants will normally be required to have:

2:2 Hons Degree in Forensic Science, Chemistry, Fire Safety Engineering etc.

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/forensic
- SCOPE website www.scope.edu
- 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), Compulsory (COMP) 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	A5	A6	A7	A8	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	D1	D2	D3	D4	D5	D6
LEVEL 7	FV4001	Fires in Buildings	COMP		✓	✓	✓		✓			✓		✓		✓		✓				✓					
	FV4003	Computer Fluid Dynamics	COMP		✓		✓					✓	✓		✓	✓		✓				✓				✓	
	FV4101	Accidents and Catastrophes	COMP					✓	✓	✓	✓	✓		✓			✓	✓						✓			
	FV4104	Practical Fire Investigation	COMP	✓	✓				✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓
	FV4601	Research Methods	COMP											✓		✓	✓	✓				✓	✓			✓	
	FZ4002	The Expert Witness in the Legal Process	COMP	✓								✓	✓	✓	✓			✓		✓	✓	✓		✓	✓	✓	✓
	FV4901	Fire Science Dissertation	COMP		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓

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

18. Curriculum Skills Map

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				A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5
LEVEL 6	FV3004	Fire Investigation	COMP							✓		✓				✓		✓	✓	✓	✓	
	FV3101	Strategic Risk Decision Making	COMP	✓	✓	✓	✓	✓					✓	✓	✓				✓		✓	
	FV3103	Hazards and Risk Management	COMP	✓		✓		✓		✓		✓		✓			✓	✓			✓	
	FV3500	Fire Studies Dissertation	C						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	HR3013	Leadership and Change Management	COMP				✓						✓		✓			✓		✓	✓	
LEVEL 5	FV2004	Fire Safety Management and Legislation	COMP			✓		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	
	FV2101	Accidents and Catastrophes	COMP	✓			✓			✓		✓	✓				✓	✓	✓	✓	✓	
	FV2102	Safety Health and Environment	COMP					✓	✓		✓			✓				✓		✓	✓	
	FV2103	Project Management	COMP	✓			✓		✓	✓			✓			✓		✓	✓		✓	

	FV2501	Community Fire Safety Strategies	COMP			✓		✓		✓				✓		✓	✓		✓		✓	
	HR2050	Managing Personnel and Human Resources	COMP		✓		✓								✓		✓	✓		✓	✓	
	HR2015	Work Organisation and Change	COMP	✓	✓		✓						✓		✓		✓	✓		✓	✓	
LEVEL 4	FV1001	Introduction to Combustion and Fire	COMP							✓		✓						✓	√	✓	✓	
	FV1101	Safety and Fire Law	COMP				✓				✓		✓		✓			✓		✓	✓	
	FV1207	Building Materials and Fire	COMP					✓	✓		✓	✓				✓	✓	✓	✓		✓	✓
	FV1501	Community Fire Safety	COMP	✓		✓		✓	✓	✓						✓		✓	✓	✓	✓	
	FV1502	Skills for Fire Studies	COMP															✓	✓			
	FV1503	Operational Firefighting	O					✓			✓						✓	✓		✓		
	HR1000	Leadership and Motivation	COMP		✓		✓								✓			✓	✓	✓	✓	

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