

Session: 2022/23

Last modified: 04/11/2021 14:25:49

Title of Module: Advanced Thin Film Technologies Dissertation			
Code: PHYS11015	SCQF Level: 11 (Scottish Credit and Qualifications Framework)	Credit Points: 60	ECTS: 30 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Shigeng Song		
Summary of Module			
<p>This module aims to provide students with an opportunity to undertake a sustained, rigorous and independent investigation of a topic relevant to the field of advanced thin film technologies. The dissertation should consist of original work. It should be informed by the theoretical and practical knowledge and expertise which the participant has developed through other modules. It should focus on a theme, topic or problem which is relevant to the interests. The resulting dissertation should not only present and interpret research findings but also critically evaluate the research design and methodology employed, and identifies the outcomes of the research in terms of possible developments and changes.</p> <ul style="list-style-type: none">• The Graduate Attributes relevant to this module are given below.• Academic: Critical thinker; analytical; inquiring; knowledgeable; digitally literate; problem solver; autonomous; incisive; innovative.• Personal: Effective communicator; influential; motivated• Professional: Collaborative; research-minded; enterprising; ambitious; driven			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
	✓				
<p>Face-To-Face Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p>Blended A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p> <p>Fully Online Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p>HybridC Online with mandatory face-to-face learning on Campus</p> <p>HybridO Online with optional face-to-face learning on Campus</p> <p>Work-based Learning Learning activities where the main location for the learning experience is in the workplace.</p>					

Campus(es) for Module Delivery

The module will normally be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
Term(s) for Module Delivery						
(Provided viable student numbers permit).						
Term 1		Term 2		Term 3		✓

[\[Top of Page\]](#)

Learning Outcomes: (maximum of 5 statements)	
On successful completion of this module the student will be able to: L1. L1. Evidence competence related to issues pertinent to the production of a masters dissertation L2. L2. Demonstrate the ability to undertake a critical literature review L3. L3. Exhibit an advanced level of understanding of the application of research philosophy L4. L4. Show competence in the selection, use, analysis of data and deriving conclusions L5. L5. Plan and produce a substantial piece of advanced independent work related to the theories, concepts and practical issues addressed in the taught course modules	
Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level 11. 1. Review the theoretical and experimental perspectives on a selected topic related to advanced thin film technologies. Demonstrate knowledge and understanding of this topic. 4. Extensive, detailed and critical knowledge and understanding of research design at the forefront of subject discipline 5. A critical awareness of research integrity and ethical issues in research studies.
Practice: Applied Knowledge and Understanding	SCQF Level 11. 1. Evaluate challenges and opportunities in the selected project topic. Retrieving, interpreting and manipulating primary and secondary information from a variety of sources including electronic sources 2. Use a range of skills and techniques – including data collection, evaluation of sources, data analysis, designing and applying research design strategies, problem solving 3. Demonstrate the ability to produce substantive proposals for research enquiry.
Generic Cognitive skills	SCQF Level 11. 1. Apply critical analysis, evaluation and synthesis to issues which are at the forefront of, or informed by, developments at the forefront of dissertation project. 2. Critically review, consolidate and extend knowledge, skills practices and thinking in project execution 3. Evaluate challenges and opportunities in the selected project topic.

	Retrieving, interpreting and manipulating primary and secondary information from a variety of sources including electronic sources 4. Apply critical analysis, evaluation and synthesis one's own and others' work informed by developments at the forefront of a subject/discipline. 5. Identify, conceptualise and define new and abstract research problems and issues by building solid arguments underpinned by relevant literature	
Communication, ICT and Numeracy Skills	SCQF Level 11. 1. Communicate with peers, more senior colleagues and specialists. 2. Communicating effectively and appropriately in speech and writing Interpreting complex secondary materials Making effective use of information retrieval systems and use information technology applications. 3. Undertake critical evaluations of project-related numerical and graphical data for the purpose of enhancing project efficiency and effectiveness. 4. Communicate the need for research and research requirements through a research proposal to a range of audiences with different levels of knowledge/expertise. 5. Use online databases to identify suitable sources and appropriate software for developing and structuring literature review	
Autonomy, Accountability and Working with others	SCQF Level 11. 1. Exercise substantial autonomy and initiative in professional and equivalent activities 2. Take responsibility for a significant range of resources beyond minimum requirements 3. Demonstrate leadership and/or initiative and make an identifiable contribution to change and development (i.e. flipped classroom environment) 4. Take responsibility for own work – selection and development of research topic (i.e. independent researcher) 5. Deal with complex ethical and professional issues in the context of research	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	Module Title:
	Other:	
Co-requisites	Module Code:	Module Title:

* Indicates that module descriptor is not published.

[\[Top of Page\]](#)

Learning and Teaching
A dissertation topic is to be agreed with the academic supervisor or in the case of a project to be undertaken with a company the agreement must include both academic and industrial supervisors. The project could be a continuation, with substantive advancement, of one of the mini-projects or a portfolio of work. A dissertation topic based on earlier work must be agreed by the academic supervisor. The student will be expected to present project findings by an oral presentation prior to the submission of the dissertation. Students must be cognisant of UWS Regulation 7.8.3 in regard to the submission of a dissertation for a

<p>Taught Masters Degree. Students are encouraged to publish original work from their project in the form of a paper submission to a peer reviewed journal. This is optional</p>	
<p>Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:</p>	<p>Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)</p>
Tutorial/Synchronous Support Activity	20
Independent Study	580
	600 Hours Total
<p>**Indicative Resources: (eg. Core text, journals, internet access)</p>	
<p>The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Project dependent.</p>	
<p>(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)</p>	
<p>Engagement Requirements</p>	
<p>In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: Academic engagement procedure</p>	

[\[Top of Page\]](#)

Supplemental Information

Programme Board	Physical Sciences
Assessment Results (Pass/Fail)	No
Subject Panel	Physical Sciences
Moderator	Gregory Morozov
External Examiner	D Faux
Accreditation Details	
Version Number	2.02

[\[Top of Page\]](#)

Assessment: (also refer to Assessment Outcomes Grids below)

Dissertation (100%)
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (% of Assessment Element)	Timetabled Contact Hours
Dissertation/ Project report/ Thesis	✓	✓	✓	✓	✓	100	0
Combined Total For All Components						100%	0 hours

Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

[\[Top of Page\]](#)

Note(s):
<ol style="list-style-type: none"> More than one assessment method can be used to assess individual learning outcomes. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note). This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity
<p>The programme team have considered how the programme meets the requirements of potential students irrespective of age, disability, political belief, race, religion or belief, sex, sexual orientation, social background or any other protected characteristic.</p> <p>Students/participants with special needs (including additional learning needs) will be assessed/accommodated and any identified barriers to particular groups of students/participants discussed with the Enabling Support Unit (for further details, please refer to the UWS Equality, Diversity and Human Rights policy). Further guidance is available from CAPLeD, Student Services, School Disability Co-ordinators or the University's Equality and Diversity Co-ordinator</p> <p>UWS Equality and Diversity Policy</p>
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)