



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Igneous and Metamorphic Petrology		
Module Code	UBGMK8-15-2	Level	Level 5
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Geography and Environmental Management
Department	FET Dept of Geography & Environmental Mgmt		
Contributes towards			
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Features:</b> Module Entry Requirements: Students must have 60 credits at Level 1</p> <p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> The syllabus includes: Classification and distribution of igneous rocks, association with plate margins. Ultrabasic and basic igneous rocks. Basalts, composition, oceanic crust. Andesites, composition. Origin of granites, continental crust composition. Classification and distribution of metamorphic rocks, mineral assemblages. Metamorphic reactions, P-T diagrams, Barrow's zones. Low pressure metamorphism, pelites.</p>

## STUDENT AND ACADEMIC SERVICES

Migmatites, partial melting.  
Contact metamorphism and mineral assemblages.

**Teaching and Learning Methods:** Scheduled learning on this module includes lectures, demonstrations and practical classes. The residential fieldwork sessions will aid knowledge and skills development and broaden students' experience of field geology.

Independent learning includes hours engaged with essential reading, completion of practical work, assignment preparation and completion. These sessions constitute an average time:

Activity:

Contact time (lectures, field and laboratory sessions): 36 hours

Assimilation, development of knowledge and independent reading: 64 hours

Exam preparation: 50 hours

Total study time: 150 hours

Students will receive, on average, 3 hours' contact time per week during one Teaching Block. This will be predominantly in the form of keynote lectures, covering the principles and concepts relating to igneous and metamorphic rock formation and occurrence, and practical sessions, in which students will examine igneous and metamorphic rocks in hand specimen and thin section. The practical sessions will be introduced by demonstrations. There will be a residential field excursion for students to examine igneous and metamorphic rocks and rock associations in outcrop. One-to-one support will be provided during field and practical sessions and via email.

### Part 3: Assessment

Summative assessment:

Component A – Examination (3 hours):

Combined practical and written examination.

The practical component will examine students' ability to recognise and interpret igneous and metamorphic rocks.

The written component will enable students to demonstrate that they have understood key principles relating to processes involved in the creation and occurrence of igneous and metamorphic rocks.

Students will be able to show that they have read widely and can apply their reading to back up interpretation of rock specimens.

Formative work:

Formative work will be set during practical and field sessions for students' self assessment. Students will receive preparation exercises for the summative assessment that may include a mock exam.

First Sit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	Exam (3 hours)
Resit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	Exam (3 hours)

STUDENT AND ACADEMIC SERVICES

<b>Part 4: Teaching and Learning Methods</b>																					
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Module Learning Outcomes</b></th> </tr> </thead> <tbody> <tr> <td style="width: 20%;">MO1</td> <td>Identify and interpret igneous and metamorphic rocks in outcrop, hand specimen and thin section</td> </tr> <tr> <td>MO2</td> <td>Demonstrate knowledge and understanding of principles governing mineral assemblages in metamorphic rocks</td> </tr> <tr> <td>MO3</td> <td>Appraise and interpret tectonic associations of metamorphic and igneous rocks and the processes leading to creation of oceanic and continental crust</td> </tr> <tr> <td>MO4</td> <td>Demonstrate independent engagement with academic literature and critically evaluate published results and interpretations</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>		MO1	Identify and interpret igneous and metamorphic rocks in outcrop, hand specimen and thin section	MO2	Demonstrate knowledge and understanding of principles governing mineral assemblages in metamorphic rocks	MO3	Appraise and interpret tectonic associations of metamorphic and igneous rocks and the processes leading to creation of oceanic and continental crust	MO4	Demonstrate independent engagement with academic literature and critically evaluate published results and interpretations										
<b>Module Learning Outcomes</b>																					
MO1	Identify and interpret igneous and metamorphic rocks in outcrop, hand specimen and thin section																				
MO2	Demonstrate knowledge and understanding of principles governing mineral assemblages in metamorphic rocks																				
MO3	Appraise and interpret tectonic associations of metamorphic and igneous rocks and the processes leading to creation of oceanic and continental crust																				
MO4	Demonstrate independent engagement with academic literature and critically evaluate published results and interpretations																				
Contact Hours	<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Contact Hours</b></th> </tr> </thead> <tbody> <tr> <td colspan="2" style="height: 20px;"> </td> </tr> <tr> <th colspan="2" style="text-align: left;"><b>Independent Study Hours:</b></th> </tr> <tr> <td style="text-align: center;">Independent study/self-guided study</td> <td style="text-align: center;">114</td> </tr> <tr> <td style="text-align: center;"><b>Total Independent Study Hours:</b></td> <td style="text-align: center;">114</td> </tr> <tr> <th colspan="2" style="text-align: left;"><b>Scheduled Learning and Teaching Hours:</b></th> </tr> <tr> <td style="text-align: center;">Face-to-face learning</td> <td style="text-align: center;">36</td> </tr> <tr> <td style="text-align: center;"><b>Total Scheduled Learning and Teaching Hours:</b></td> <td style="text-align: center;">36</td> </tr> <tr> <td style="text-align: center;"><b>Hours to be allocated</b></td> <td style="text-align: center;">150</td> </tr> <tr> <td style="text-align: center;"><b>Allocated Hours</b></td> <td style="text-align: center;">150</td> </tr> </tbody> </table>	<b>Contact Hours</b>				<b>Independent Study Hours:</b>		Independent study/self-guided study	114	<b>Total Independent Study Hours:</b>	114	<b>Scheduled Learning and Teaching Hours:</b>		Face-to-face learning	36	<b>Total Scheduled Learning and Teaching Hours:</b>	36	<b>Hours to be allocated</b>	150	<b>Allocated Hours</b>	150
<b>Contact Hours</b>																					
<b>Independent Study Hours:</b>																					
Independent study/self-guided study	114																				
<b>Total Independent Study Hours:</b>	114																				
<b>Scheduled Learning and Teaching Hours:</b>																					
Face-to-face learning	36																				
<b>Total Scheduled Learning and Teaching Hours:</b>	36																				
<b>Hours to be allocated</b>	150																				
<b>Allocated Hours</b>	150																				
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/modules/ubgmk8-15-2.html">https://uwe.rl.talis.com/modules/ubgmk8-15-2.html</a></p>																				