

## UNDERGRADUATE PROGRAM IN OCEANOLOGY

### THE INTERRELATION BETWEEN LOs AND ASIIN SSC 11

THE SUBJECT-SPECIFIC CRITERIA (SSC) FOR GEOSCIENCES		PROGRAM LEARNING OUTCOME							
		<i>LO1</i>	<i>LO2</i>	<i>LO3</i>	<i>LO4</i>	<i>LO5</i>	<i>LO6</i>	<i>LO7</i>	<i>LO8</i>
<b>Underlying basis</b>									
1	Basic knowledge and understanding of the natural sciences (Physics, Chemistry, Mathematics) underlying the study of Geology	M							
2	Knowledge and understanding of the essential features, processes, materials, history and the development of the Earth and life	M	M						
3	Basic knowledge and understanding of the key aspects and concepts of geology, including some at the forefront of that discipline	M	M						
4	Knowledge of the common terminology and nomenclature and the use of bibliography in Geoscience		H		M				
5	Awareness of the wider spectrum of geological disciplines		M						
6	Awareness and understanding of the temporal and spatial dimensions in Earth processes		H						
7	Awareness of the applications and responsibilities of Geosciences and its role in society including its environmental aspects		M				M	H	M
8	Awareness of major geological paradigms, the extent of geological time and plate tectonics		M						
9	Knowledge and understanding of the complex nature of interactions within the geosphere		H						
10	Appropriate knowledge of other disciplines relevant to geosciences		H						

<b>Analysis, Design and Implementation</b>								
1	Some understanding of the complexity of problems in the specific field of study and the feasibility of their solution		H	M			M	M
2	Understanding the need of a rational use of earth resources		H					
3	Basic ability in the formalisation and specification of problems whose solution involves the use of geo-methods			H				
4	Knowledge of appropriate solution patters for geosciences problems			H			M	H
5	Basic ability to describe a solution at an abstract level						H	H
6	Knowledge of the range of applications of geosciences		H					
7	Ability to integrate field and laboratory evidence with theory following the sequence from observation to recognition, synthesis and modelling			M				
8	Appreciation of issues concerning sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory			M				
9	Ability to formulate and test hypotheses						H	
<b>Technological, Methodological and Transferable Skills</b>								
1	Basic ability to become familiar with new geological methods and technologies			H	M			
2	Ability to select and use relevant analytic and modelling methods			H				H
3	Basic ability to apply appropriate technology and use relevant methods			H			M	M
4	Ability to use simple quantitative methods and to apply them to geological problems			H			M	M
5	Basic ability to independently analyze Earth materials in the field and laboratory and to describe, process, document and report the results			H	H	M		H

6	Ability to undertake field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders			H		H		H	H
7	Basic ability to combine theory and practice to complete geology tasks		M	M				M	
8	Ability to undertake literature searches, and to use data bases and other sources of information				M		M		
9	Ability to receive and respond to a variety of information sources (eg textual, numerical, verbal, graphical)		H	H	M			H	
10	Ability to conduct appropriate experiments, to analyze and interpret data and draw conclusions			H				H	
11	Basic awareness of relevant state-of-the-art technologies and their application			M	M				
12	Basic ability to solve numerical problems using computer and non-computer based techniques			M					
13	Basic knowledge of the application of information technology to geological science			H					
14	Ability to use spreadsheet and word-processing software			H					
<b>Other Professional Competencies</b>									
1	Ability to complete assigned tasks in a range of technical, economical and social contexts				M	H			H
2	Ability to learn and study including effective time management and flexibility				H	H	H	H	
3	Awareness of the concept of professionalism and professional ethics								H
4	Knowledge of the economic, social, environmental and legal conditions expected in professional practice	M			M				
5	Basic awareness of project management and business practices and understanding of their limitations	M					M	M	

6	Ability to work effectively as an individual and as a member of a team				H	H			
7	Recognition of the need for, and engagement in, self-managed and life-long learning								H
8	Ability to organise their own work independently						H	H	
9	Basic ability to formulate an acceptable problem solution using geological methods in a costeffective and time-efficient way						M	M	
10	Basic knowledge in estimating and measuring costs and productivity	M							
11	Basic ability to communicate effectively in written and verbal form with colleagues, other professionals, customers and the general public about substantive issues and problems related to their chosen specialisation				M				M
12	Basic ability to prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques and packages				H		H	H	H