

Liverpool John Moores University

Title: GLACIAL & FLUVIAL PROCESSES
Status: Definitive
Code: **6205OUTDOR** (104245)
Version Start Date: 01-08-2016

Owning School/Faculty: Sports Studies, Leisure and Nutrition
Teaching School/Faculty: Sports Studies, Leisure and Nutrition

Team	Leader
Timothy Stott	Y

Academic Level: FHEQ6
Credit Value: 12
Total Delivered Hours: 29.5
Total Learning Hours: 120
Private Study: 90.5

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	20
Off Site	5
Seminar	3

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination : examination	50	1.5
Essay	AS2	Coursework : essay 1500 words	50	

Aims

To allow students to understand the erosional and depositional processes created in glacial and fluvial environments and to understand the cause of the geomorphic landscapes created by such processes. To provide a conceptual framework of the drainage basin as a system linking the various elements to fluvial processes and landforms on the Earth's surface.

Learning Outcomes

After completing the module the student should be able to:

- 1 evaluate glacier dynamics;
- 2 critically analyse models of glacial and glaciofluvial erosion, transport and depositional processes;
- 3 synthesise how these processes create glacial and glaciofluvial depositional and erosional landscapes;
- 4 evaluate the hydrological cycle and its importance in the drainage basin system;
- 5 critically analyse the systems approach as applied to drainage basins and the concept of the unit hydrograph;
- 6 critically evaluate measurement and sampling techniques for estimating river discharge, solute and the sediment loads in streams and rivers;
- 7 critically synthesise the fluvial processes responsible for erosion, transport and deposition of sediments and evaluate the impact of human activities;
- 8 critically analyse fluvial landforms as observed in the British Landscape.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3	4	5	6	7	8
ESSAY	3	6						

Outline Syllabus

Mass balance, glacier dynamics and the mechanisms of ice flow; the processes and landforms of glacial erosion; glacial debris transport deposition; supraglacial, englacial and subglacial processes; landscapes of glacial deposition; glacial hydrological systems, processes and deposition; glaciogenic, glacial lake and glacio-marine processes, sediments and landforms; the drainage basin and how runoff and river flow is generated. It uses practical fieldwork to demonstrate modern techniques deployed by fluvial geomorphologists to investigate the processes and landforms in drainage basins. The impact of human activity on drainage basins.

Learning Activities

Lectures, videos, slides, use of internet resources, student led seminars, field visits, coursework and examination preparation.

Notes

This module will allow students to understand the erosional and depositional

processes created in glacial and fluvial environments and to understand the causes of the geomorphic landscapes created by such processes. It will provide conceptual framework of the drainage basin as a system linking the various elements to fluvial processes and landforms on the Earth's surface.