MODULE DESCRIPTION FORM

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

CL952 Aquifer Mechanics

Module Registrar: Neil Burnside	**Taught To (Course): MSc Hydrogeology**		
Other Lecturers Involved:	**Credit Weighting: 10**	**Semester: 2 (on campus / DL) & 3 (DL only)**	
Assumed Prerequisites: CL935 Hydrogeology	**Compulsory for MSc Hydrogeology; can be optional for other PGT**	**Academic Level: 5**	**Suitable for Exchange: N**

Module Format and Delivery (HOURS i.e. 1 credit = 10hrs of study):

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	**Total**
18	6						40	36	100

Educational Aim

This module aims to provide the student with an understanding of:
- Hydrogeology and Subsurface Fluid Flow
- Well Hydraulics and Pumping Tests
- Real-world applications of Hydrogeology

Learning Outcomes

On completion of the module, the student is expected to be able to

LO1: The student will be able to synthesize key features about aquifer dynamics in order to create a comprehensive conceptual understanding

LO2: The student will be able to evaluate and determine groundwater aquifer properties through numerical analysis of well hydraulic data

LO3: The student will be able to identify practical challenges facing groundwater resource use and understand approaches on how to manage these

Syllabus

The module will teach the following:

Lectures will provide information on groundwater resources, aquifer properties, and well hydraulics

Tutorials will be used to underpin practical understanding of aquifer properties

Assessment of Learning Outcomes

Criteria

For each of the Module Learning Outcomes the following criteria will be used to make judgements on student learning:

Assessment of learning outcomes will be in the form of a welldata analysis report (LO2 & LO3), a semester report that will demonstrate one's conceptual understanding of aquifer properties (LO1 & LO3), and a summative exam and continually assessed review quizzes throughout the semester (LO1, LO2 & LO3).

The standards set for each criterion per Module Learning Outcome to achieve a pass grade are indicated on the assessment sheet for all assessment.

Principles of Assessment and Feedback
(within Assessment and Feedback Policy at: https://www.strath.ac.uk/staff/policies/academic/)

Reports will receive informative evaluation and feedback within three weeks of submission, so = students work can be informed of their understanding and progress.

Assessment Method(s) Including Percentage Breakdown and Duration of Exams

	Examinations				**Courseworks**		**Class quizzes**	
	Number	Month(s)	Duration	***Weighting***	Number	***Weighting***	Number	***Weighting***
	1	May / Aug	2 hrs	40	2	50	10	10
L/Outcomes	See Assessment of Learning Outcomes							

Indicate which learning outcomes (LO1, LO2 etc.) are to be assessed by exam/coursework/project as required.

Coursework / Submissions deadlines (*academic weeks*):

Conceptual report – Week 7
Field Data analysis report – Week 9

Resit Assessment Procedures:
Take-home examination in August diet / Resubmission of coursework(s) before commencement of the August exam diet.

PLEASE NOTE:
Students must gain a summative mark of 50% to pass the module. Students who fail the module at the first attempt will be re-examined during the August diet. This re-examination will consist entirely of exam / coursework.

Recommended Reading

All textbooks and materials required for the module are available on MyPlace

Additional Student Feedback
(Please specify details of when additional feedback will be provided)

Date	Time	Room No

Session:

Approved:

Course Director Signature: Neil Burnside
Date of Last Modifications: 22/10/21

ASSESSMENT TIMETABLE

Module Code	CL952	Module Title	Aquifer Mechanics

Indicate in the tables below the Hand-Out (H), Submission (S) and Feedback (F) week number for each assignment (lab report/coursework/project etc) and the timing of each Exam (E), Class Test (CT) or Quiz (Q)

Semester

Assessment type & title	LOs	Weight (%)	Individual or Group	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
Weekly Quizzes	LO1 LO2 LO3	10%	Individual	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		
Conceptual assignment	LO1 LO2 LO3	25%	Individual			H				S			F		
Field Data Analysis Report	LO1 LO2 LO3	25%	Individual						H			S			F
Class Exam	LO1 LO2 LO3	40%	Individual												E

Appendix

Mapping Module Learning Outcomes to AHEP

Assessment Title	Engineering Council AHEP competencies
LO1	**Science and mathematics + Engineering analysis + Engineering practice**
LO2	**Science and mathematics + Engineering analysis + Engineering practice**
LO3	**Science and mathematics + Engineering analysis + Engineering practice**

Programme Threads

	Assessment Title		
Thread	**Primary**	**Secondary**	**Contributory**
Design			
Health, Safety & Risk Assessment			**x**
Sustainability		**x**	
Professionalism, Ethics, Diversity and Inclusion			
Application of Maths to solve engineering problems			
Industrial Engagement & Site Visits			
Digital Technologies			