MODULE DESCRIPTION FORM

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ME980 SATELLITE DATA APPLICATIONS FOR SUSTAINABLE DEVELOPMENT

Module Registrar: Dr A. Riccardi annalisa.riccardi@strath.ac.uk	**Taught To (Course): MSc. Satellite Data for Sustainable Development for whom the class is compulsory**	
Other Lecturers Involved:	**Credit Weighting: 10**	**Semester: 2**
Elective class	**Academic Level: 5**	**Suitable for Exchange: N**

Required prerequisites

Note: It is the responsibility of ALL students to ensure that they satisfy the prerequisite knowledge for this module BEFORE adding as part of curriculum selection. If unsure, please contact the Module Registrar or discuss with your Programme/Year Adviser of Studies.

None

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

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	**Total**
5	10		20	5			60	100	100

Educational Aim

This class is designed to provide the student with the understanding of the impact that the use of satellite data has on addressing the UN agenda on sustainable development.

The module is focused on providing the students with a practical understanding of the applications of satellite data to sustainable development and the sustainability of data gathering itself. This articulates in a series of invited lectures from academics from other departments, private practitioners and governmental representatives; and a series of tutorials where notable success stories on the topic will be analysed and discussed in terms of results achieved, impact and technology demonstrated.

Learning Outcomes

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

LO1 Student will be able to independently assess the applicability of satellite data to targeted sustainable development challenges

LO2 Students will develop critical thinking on the current research progress in the field and their impact on the society

LO3 Students will develop a consideration and analysis of current effort in academia, private and public sector on addressing the UN sustainable development agenda target goals

Syllabus

The module will critically analyse case studies developed among the topics (5 topics are chosen each year):

- Sustainability of satellite data assimilation and processing
- Satellite data for urban development
- Satellite data for policy, decision making and actions
- Satellite data for water resources monitoring and management
- Satellite data for agriculture and rural development

- Satellite data for climate mitigation and adaptation
- Satellite data for ecosystem preservation
- Satellite data for financial applications
- Satellite data for monitoring and maintenance operations

Assessment of Learning Outcomes

Criteria

LO1
C1 Identify key challenges in the targets of one or more of the UN sustainable development goals presented, research current state of the art of the applicability of satellite data to the identified challenges and propose an alternative solution
C2 Develop a detailed project plan, identify relevant data and perform an assessment analysis of the proposed concept

LO2
C1 Communicate clearly the understanding of the key challenges encountered, solutions proposed, results achieved and potential impact in academia, public and private sector

LO3
C2 Elaborate a critical discussion of the case studies analysed with the support of additional external sources

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/professionalservices/staff/policies/academic/)

Student must produce a group presentation and an individual written report. The group presentation focuses on a critical analysis of the papers reviewed and presentations attended in terms of approach used, state of the art and potential impact. For the written report the student has to select a sustainable development goal, review existing work in the field and gaps, propose a plan, a technology and a preliminary analysis of the work to be completed to progress towards the goal.
Verbal feedback on presentations will be shared with student on the same day with an in-class discussion with the entire cohort. A written feedback will also be uploaded together with the mark that summarises what has been provided already in class during the presentation. Written feedback will be returned for individual reports.

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

Examination				**Coursework**		**Practical**		**Project**	
Number	Month(s)	Duration	***Weighting***	Number	***Weighting***	Number	***Weighting***	Number	***Weighting***
				1	70%	1	30%(Presentation)		
*				*LO1-3		*LO1-3			

* ***L/Os:*** *Indicate which Learning Outcomes (L01, L02, etc) are to be assessed by exam/coursework/practical/project as required.*

Coursework / Submissions deadlines (*academic weeks*):
Semester 2 (January) Week 10 Presentation
Semester 2 (January) Week 11 Coursework

Resit Assessment Procedures:
Submission of alternate ^^coursework prior to commencement of the July/August exam diet.

^^Students must contact the module Registrar for details as soon as results confirm that a resit is required.

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-assessed prior to the July/August diet. This re-assessment will consist entirely of a coursework. No marks from any previous attempts will be transferred to a new resit attempt.

Recommended Reading

No set texts or recommended for the class. Relevant material provided during tutorials or on Myplace module page

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

Date	Time	Room No
		Check timetable webpages for details

Session: 2024/2025

Approved:

Programme Lead/Director Signature: Dr A McLaren

Date of Last Modifications: 12/08/2024

(MAE template updated July 2024)

MODULE TIMETABLE

Module Code:	**ME980**	**Module Title:**	**Satellite Data Applications for Sustainable Development**

Brief Description of Assessment:

One group presentation to be held in week 10 (30%) and one coursework report to be submitted on Week 11 (70%)

Assessment Timing

Indicated on the table below are the start/submission dates for each assignment/project and the timing of each exam/assessment.

Please note: Timings could change during unforeseen periods of disruption; this should only be used as a guide.

Semester One	W&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item.

Semester Two	C&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Set	Choose an item. Choose an item.	Choose an item. Choose an item.	Presentation	Course work Submit	Choose an item.