Module Descriptor

Title	Smart Transport and Cities		
Session	2025/26	**Status**	Published
Code	ENGG10091	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	TBC		

Summary of Module

This module explores the intersection of urban planning, transportation systems and emerging smart city technologies. It investigates how innovative transport solutions and smart technologies can enhance urban mobility, reduce congestion and create more sustainable and liveable cities. Students will examine the role of digital infrastructure, autonomous vehicles, smart grids and integrated transport systems in shaping the cities of the future.

The Graduate Attributes relevant to this module are:

Academic: Analytical, Digitally literate, Knowledgeable, Problem-solver

Personal: Culturally aware, Creative, Resilient, Motivated

Professional: Collaborative, Socially responsible, Enterprising, Transformational

Module Delivery Method	**On-Campus[1]** ☒	**Hybrid[2]** ☐	**Online[3]** ☐	**Work -Based Learning[4]** ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Terms for Module Delivery	Term 1	☒	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Understand the principles of smart cities and their implications for urban transport and planning.
L2	Evaluate the role of smart technology in addressing urban mobility challenges, such as congestion, emissions and accessibility.
L3	Apply concepts of integrated transport systems and smart infrastructure in the context of urban planning.
L4	Critically analyse the impact of smart transport technologies, such as autonomous vehicles and electric transport, on city development.
L5	Formulate strategies for planning cities that incorporate smart transport systems and digital innovations.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 10** In-depth understanding of smart city technologies and their impact on urban transport systems. Knowledge of policy frameworks and global case studies related to smart cities.
Practice: Applied Knowledge and Understanding	**SCQF 10** Application of smart transport technologies in urban planning contexts. Using data-driven approaches to solve urban mobility challenges.
Generic Cognitive skills	**SCQF 10** Critical thinking and problem-solving in the context of smart city and transport solutions. Analytical skills in evaluating the effectiveness of transport innovations.
Communication, ICT and Numeracy Skills	**SCQF 10** Communication of complex smart transport solutions to diverse audiences. Proficiency in using ICT tools for data analysis.
Autonomy, Accountability and Working with Others	**SCQF 10** Developing independent research on smart cities and transport technologies. Collaborating in group projects to propose innovative urban mobility strategies.

Prerequisites	**Module Code**	**Module Title**

	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. The module will be delivered through a combination of lectures, which will develop the theoretical underpinning for the module content, and workshops, which will enable to apply theoretical concepts and frameworks to understand existing and proposed transport systems in cities. In the workshop activities, students will be introduced a real-world problem where they will analyse the role of transport systems in urban outcomes.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	27
Laboratory / Practical Demonstration / Workshop	09
Independent Study	164
n/a	
n/a	
n/a	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Batty, M., 2018. Inventing future cities. MIT press. Docherty, I., Marsden, G. and Anable, J., 2018. The governance of smart mobility. Transportation Research Part A: Policy and Practice, 115, pp.114-125. Gehl, J., 2013. Cities for people. Island press. Hutton, B., 2013. Planning sustainable transport. Routledge. Transport Scotland, 2020. National Transport Strategy 2 https://www.transport.gov.scot/publication/national-transport-strategy-2/
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:
The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Engineering Physical Sciences**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Engineering
Moderator	
External Examiner	TBC
Accreditation Details	None
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
A written report (50%).
Assessment 2
A group presentation on a prescribed topic (50%).

Assessment 3
n/a
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Report	☒	☒	☒	☐	☒	50	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☐	☐	☒	☒	☐	50	2

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
n/a	☐	☐	☐	☐	☐		
Combined total for all components						100%	hours

Change Control

What	**When**	**Who**