ES2H1-15 Transport Systems

26/27

Department
School of Engineering
Level
Undergraduate Level 2
Module leader
Elia Gironacci
Credit value
15
Module duration
10 weeks
Assessment
30% coursework, 70% exam
Study location
University of Warwick main campus, Coventry

Description

Introductory description

Transport Systems

Module aims

This module introduces students to the principles and current practice of Highway and Transportation Engineering for roads and other transport systems in the UK. The aim is to gain knowledge and understanding of this topic and to develop appropriate analysis and design skills through undertaking transport systems design, supported with commercial software used widely by practitioners.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Introduction, scope and need for traffic and transport management Traffic management and information on inter-urban highways * Traffic management and information in urban networks Demand management, including access control, road pricing and congestion charging Public transport management Environmental traffic management Parking management and control

Speed management and traffic calming In-vehicle management systems for driver support, control, safety and information Evaluation of applications, including the use of macroscopic, mesoscopic and microscopic network modeling Options and opportunities for Intelligent Transport Systems (ITS)
Introduction to railway systems design and management

Learning outcomes

By the end of the module, students should be able to:

- Understand and apply knoweldge of the principles behind the formation of UK transport policy, and how this affects transport engineering decisions. [M4(M), M15(M)]
- Select and design transport solutions (inlcuding roads, junctions, rails and stations) according to requirements/specifications. [M4(M), M5(M)]
- Critique key issues in Highway and Transportation Engineering, including transport law and it's application to civil engineering. [M4(M), M15(M)]
- Propose and critically analyse alternative designs and options for transport engineering projects considering sustainability and societal needs. [M4(M), M5(M), M11(M)]
- Demonstrate critical awareness of traffic management and safety. [M15(M)]
- Identify and apply the appropriate design standards for inclusive engineering in transport design. [M4(M), M5(M), M11(M)]
- Select and apply the appopriate modelling techniques for transport systems, appreciating the limitations of these techniques [M3(M), M5(M)]

Indicative reading list

Reading lists can be found in Talis

Subject specific skills

Ability to formulate technical solutions able to meet societal, technical and economical needs
Ability to analyse and apply relevant legislations and codes of conduct
Ability to be risk, cost and value-conscious, and aware of their ethical, social, cultural, environmental, health and safety, and wider professional engineering responsibilities

Transferable skills

Communicate to technical and non-technical audiences
Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
Awareness of the nature of business and enterprise in the creation of economic and social value
Overcome difficulties by employing skills, knowledge and understanding in a flexible manner
Ability to formulate and operate within appropriate codes of conduct, when faced with an ethical issue
Appreciation of the global dimensions of engineering, commerce and communication

Study

Study time

Type	Required
Lectures	24 sessions of 1 hour (16%)
Seminars	6 sessions of 1 hour (4%)
External visits	1 session of 3 hours (2%)
Private study	117 hours (78%)
Total	150 hours

Private study description

117 hours of guided independent learning

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group D

	Weighting	Study time	Eligible for self-certification
Assessment component			
Case Study Case Study on Transport Systems (30%)	30%		Yes (extension)
Reassessment component is the same			
Assessment component			
Centrally-timetabled examination (On-campus)	70%		No

	Weighting	Study time	Eligible for self-certification
Written examination			

- Graph paper
- Answerbook Pink (12 page)
- Students may use a calculator

Reassessment component is the same

Feedback on assessment

Model solutions of questions for exam preparation. Cohort level feedback on the online examination. Individual feedback on the report.

Past exam papers for ES2H1

Availability

Courses

This module is Option list A for:

- Year 2 of UESA-H216 BEng Civil Engineering
- Year 2 of UESA-H112 BSc Engineering
- Year 2 of UESA-H217 MEng Civil Engineering