

WM297-30 Automation Group Project

27/28

Department

WMG

Level

Undergraduate Level 2

Module leader

Rob Thornton

Credit value

30

Module duration

24 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

Automated systems often have to operate in dynamic environments. In this second group project, teams of engineers will work through a design project to deliver a functional prototype to an open-ended engineering problem, using industry-appropriate tools and techniques. The project will culminate in the manufacture, presentation and competitive demonstration of a working prototype.

Module aims

Apply engineering principles and techniques, and experience gained since the start of the degree programme to plan, design, manufacture, test and evaluate a prototype for a broadly-defined engineering problem requiring the application of automation to its solution.

Learners will consider other design factors in more depth such as commercial, manufacturing and sustainability.

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.

- Systems Development Life Cycles (SDLCs)
- Leadership in project management
- Tools and techniques for managing teams
- Risk assessment and mitigation methods
- Interpersonal skills development for diverse team contexts

Learning outcomes

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

- Develop an inclusive project management and stakeholder engagement plan [AHEP:4-C9, C11, C15].
- Develop a technical specification and functional architecture in response to stakeholder requirements, and initial system simulation [AHEP:4-C4, C6].
- Working as a team, apply engineering principles and industry-appropriate tools to develop detailed engineering designs, with evaluation of environmental impacts [AHEP:4-C5, C7, C16].
- Manufacture a prototype for competitive testing, with proactive management of safety [AHEP:4-C12, C13].
- Critically reflect on the performance of the project team and prototype, to professionally present technical outcomes to technical and non-technical audiences [AHEP:4-C16, 17].

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

Create basic project risk management plans.

Working as part of a collaborative engineering team to deliver technical outcomes.

Iterative testing and design modification.

Critical reflection of team performance and project outputs.

Presenting technical content.

Transferable skills

This module will contribute to the development of the following from the Warwick Core Skills framework:

Critical Thinking: Interpreting, analysing

Problem Solving: Problem creation

Teamworking: Collaboration

Digital Literacy: IT skills

Professionalism: Attention to detail

Sustainability: Community citizenship

Study

Study time

Type	Required
Lectures	6 sessions of 1 hour (2%)
Seminars	6 sessions of 1 hour (2%)
Practical classes	48 sessions of 1 hour (16%)
Online learning (independent)	60 sessions of 1 hour (20%)
Private study	60 hours (20%)
Assessment	120 hours (40%)
Total	300 hours

Private study description

Online learning (independent): Engagement with recommended materials and resources (from supervisory meetings and other expert consultants) - review, interpretation and learning to apply knowledge.

Private study: Independent identification, learning and development of new knowledge, skills and tools required for project.

Creation of own tools and resources - e.g. theoretical / physical models, computational simulations, project planning tools, budget calculators, etc.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Assessment 1	25%	30 hours	No
As a team develop and present a project management and stakeholder engagement plan for an			

	Weighting	Study time	Eligible for self-certification
automated system, including functional architecture and initial system simulation. Subject to peer marking in line with WMG policy.			
Reassessment component			
Assessment 1 reassessment			No
Develop and record a project management and stakeholder engagement plan for an automated system, including functional architecture and initial system simulation.			
Assessment component			
Assessment 2	50%	60 hours	No
As a team prepare and submit technical system documentation covering the detailed design of the prototype, and demonstrate its functionality through live demonstration. Subject to peer marking in line with WMG policy.			
Reassessment component			
Assessment 2 no reassessment			No
No reassessment possible due to PSRB requirements - specifically the need to demonstrate team work.			
Assessment component			
Assessment 3	25%	30 hours	No
As a team evaluate the performance of the prototype against wider system and stakeholder requirements, and the execution of the project, and present your findings to an audience of peers. Subject to peer marking in line with WMG policy.			
Reassessment component			
Assessment 3 reassessment			No
Evaluate the performance of a prototype against wider system and stakeholder requirements, and the execution of a project, and record a presentation of your findings aimed at an audience of peers.			
Feedback on assessment			

Formative: Verbal feedback during interactive class sessions and practical sessions; Verbal feedback during supervisory and ad hoc meetings; Verbal feedback following presentations.

Summative: Written feedback and marks aligned with University 20 point marking scale.

Availability

There is currently no information about the courses for which this module is core or optional.