



BACHELORS DEGREE ASSIGNMENT SPECIFICATION

Student name:		Student P number:	
Programme:	BEng (Hons) Engineering Portfolio		
Module:	Engineering Design	Module Level (4, 5, 6):	Level 4
Module code:	M4X01160	Contribution to Overall Module Assessment (%):	50%
Lecturers:	Richard Morgan Pedro Monteiro-Ferreira	Internal Verifier:	Graham Howe
Assignment Title:	Engineering Design Project	Assignment No (x of x):	2 of 2
Hand Out Date:	01/12/17	Submission deadline:	Task 1 29/01/18 Task 2 09/02/18 Task 3 16/03/18 Task 4 26/03/18 Task 5 28/03/18 am Task 6 28/03/18 pm Task 7 27/04/18

Referencing:	In the main body of your submission you must give credit to authors on whose research your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have read or quoted in order to complete this assignment (e.g. for books: surname of author and initials, year of publication, <u>title of book</u> , edition, publisher: place of publication).		
Disclosure:	I declare that this assignment is all my own work and that I have acknowledged all materials used from the published or unpublished works of other people. All references have been duly cited.		
Student's Signature:	Assignments will not be accepted without a signature here	Date:	
Turnitin: Lecturer to tick to indicate if an electronic version of the assignment must be submitted to Turnitin. Note: the Turnitin version is the primary submission and acts as a receipt for the student. Both electronic and paper versions MUST be submitted by the same deadline. No marks will be released until both submissions are received. Late submission of the electronic version will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, Refer.			YES
			NO

Learning Outcomes tested (from module syllabus)	Assessment Criteria To achieve each outcome a student must demonstrate the ability to:
1 Show a detailed knowledge and understanding of: the design processes and the ability to apply them and evaluate their effectiveness; the impact of and from the	Design and manufacture a solution to the challenge outlined in the brief.

	environment and legislation factors on the design process and engineering companies.	Produce an A3 poster which outlines the engineering principles used to develop the design solution.
2	Demonstrate skills in communicating the design, material and manufacturing of products through to the preparation and reading of Engineering Drawings to BS8888 through the medium of 2D and 3D CAD tools (Component B)	Give a presentation on the design principles, costs incurred and analytical techniques used during the design and development process.
3	Demonstrate cognitive skills to allow choice of material and manufacturing processes to meet specific design criteria with relationship to manufacturing volume, mechanical properties, cost, dimensional accuracy and automation. (Components A and B)	Test the design solution in a 'live head-to-head' test against other students' design solutions.
4	demonstrate key transferable skills in problem formulation and decision making, communication and self-management skills as well as working with others (component A)	

- Please submit the assignment parts in a suitable report folder– not in polypockets.
- This form (ALL PAGES) MUST be at the front of the paper submission. Assignments will not be accepted without this form as it is a requirement that you sign the disclosure regarding referencing convention.
- DO NOT put this form into Turnitin or it will match many similarities with other students' submissions.

TASK DESCRIPTION

This piece of coursework requires you to work in a team to develop solutions to an engineering design challenge. The coursework requirements are aligned to an engineering design challenge which is being run for UK based undergraduate engineering students. The intention is to run the challenge within UWTSD in the first instance with a view to the winning teams representing the university at regional and national level.

The Engineering Design Challenge is being organised by the Institute of Mechanical Engineers and a detailed description of the challenge is available on Moodle.

Note that this coursework specification must be read in conjunction with one of the Engineering Design Challenge documents which can be accessed on Moodle All team members are required to participate in the presentation and will be assessed on both their individual contribution and how they are interacting with the group objectives.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

Task	Deadline	Deliverable	Submission Format	Marks Available
1	29 th Jan	Produce a video presentation featuring the following: - Team Members Roles - Detailed Design Specification - Concept Designs (using CAD or another medium) - Idea Isolation and Concept Development (using CAD representation). All team members are required to participate in the presentation and will be assessed on both their individual contribution and how they are interacting with the group objectives. The video presentation should be uploaded to Turnitin and should be no longer than 5 mins.	Video Presentation (5min max)	10

2	9 th Feb	Produce a video presentation featuring the final design. This should include: • A detailed description of the operating principles. • Justification of any decisions made • CAD representations. • Any scientific Underpinnings/principles. All team members are required to participate in the presentation and will be assessed on both their individual contribution and how they are interacting with the group objectives. The video presentation should be uploaded to Turnitin and should be no longer than 5 mins.	Video Presentation (5min max)	10
3	16 nd March	Produce a video presentation featuring the following: • The working prototype (including a trial test) • An interim appraisal of the design/prototype including any amendments which will be made prior to the 4th of April. All team members are required to participate in the presentation and will be assessed on both their individual contribution and how they are interacting with the group objectives. The video presentation should be uploaded to Turnitin and should be no longer than 5 mins.	Video Presentation (5min max)	15
4	26 th March	Produce and submit a poster in preparation for the 4th of April. • The poster should be formatted to A3 size. It should clearly display the UWTSD logo. The poster should be in portrait format/orientation. • The poster should concisely describe/outline the design solution, how it operates and the engineering principles it is based on. It should include, but is not limited to: ○ CAD or other drawings describing the device, system or solution. ○ Bulleted text to explain important features shown in the drawings. ○ Brief details of the team's members and their main areas of responsibility. • Costing of the design is not required in the poster. These can be supplied in a separate document. All team members are required to participate in the development of the poster.	Poster (Electronically – Turnitin)	See task 5
5	28 th March (am)	Deliver a Live Group Poster-Presentation • The maximum length of the presentation is ten minutes plus a few minutes for questions. It should be delivered by each team collaboratively (each team member should outline their individual contribution to the group effort).	Live Poster Presentation (10 mins max)	20* *The poster must be submitted by the 26 th

		Computer and projector facilities with PowerPoint software will be available. - The presentation should include, but is not limited to: - The main features of the final design. - The engineering science that underpins the design solution/system. - The steps the team followed to arrive at the design. - The cost of the final design and if/how costs influenced the final design - The team will also be required to answer questions on their design. All team members are required to participate in the poster presentation (and the Q&A) and will be assessed on both their individual contribution and how they are interacting with the group objectives.		of March for the marks not to be capped at 40% for this element of the assessment
6	28 th March (pm)	Attend the UWTSD Engineering Design Challenge event and use your pipe crawler to participate in the competition. Full details of the rules and regulations for the competition can be found in the following document on Moodle: Design Challenge Project Specification & Rules	Physical Test	25
7	27 th April	Produce a video presentation which reflects on the following: - Project outcomes - Prototype performance - Poster presentation - Project management and time management. - Group working and communication This should be a reflective assessment which addresses what went well and what could be improved. All team members are required to participate in the presentation and will be assessed on both their individual contribution and how they are interacting with the group objectives.	Video Presentation (5min max)	20