



PRIFYSGOL CYMRU
Y Drindod Dewi Sant
UNIVERSITY OF WALES
Trinity Saint David

LEVEL 5

SEMESTER 1

MODULE CODE: M2X9481

Engineering Team Management

ASSESSMENT TYPE: ASSIGNMENT

ASSESSMENT/COMPONENT: 1

COMPONENT WEIGHTING: 50 %

WORD COUNT: 2500 WORDS

MODULE TUTOR: Mark Sandford



HND / BSc DEGREE: ASSIGNMENT SPECIFICATION

Student name:		Student P number:	
Programme:	BSc/HND Automotive / Motorsport Engineering		
Module:	Engineering Team Management	Module Level (4, 5, 6):	5
Module code:	M5X01176	Contribution to Overall Module Assessment (%):	50
Lecturer:	Mark Sandford	Internal Verifier:	A Gibson
Assignment Title:	Project Planning	Assignment No (x of x):	1 of 1
Hand Out Date:	1/02/18	Submission deadline:	15/03/18

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I declare that this assignment is all my own work and that I have acknowledged all materials used from the published or unpublished works of other people.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 either the electronic or paper version will result in a late penalty mark. Penalties for late submission: Up to four weeks late, maximum mark of 40%. Over four weeks late, Refer. Only Year Tutors and the Programme Director may grant an extension.			YES	Tick
			NO	

Learning Outcomes tested (from module syllabus)	Assessment Criteria To achieve each outcome a student must demonstrate the ability to:
Demonstrate subject specific skills and cognitive skills in recognising and evaluating accounting methods, planning, costing and monitoring projects, workforce motivation and team dynamics	Plan a team project, generate costs and apply appropriate criteria for monitoring and control of costs, time and performance..
Show detailed knowledge and understanding of the relationship between an engineering organisation and the industrial, socio-economic and environmental context in which it is found.	

Submit electronically through Turnitin

-
- DO NOT put this form into Turnitin or it will match many similarities with other students' submissions.

TASK DESCRIPTION

To rigorously plan your 2nd year group project with particular reference to **your** contribution to the overall project.

Write a report to introduce the project to your managing director.

Your report should include:

- 1) An abstract of the project
- 2) List all team member's roles and responsibilities within the project. Identify the skills and personality traits required for **your** role, make reference to 'Belbin's' model.
- 3) A list of overall group tasks and associated timings
- 4) A detailed list of **your** tasks including
 - Hours required to perform the task
 - Task duration
 - Preliminary 'Bill of Materials' with approx (estimated) costs and purchase lead times
 - List of any specialist equipment required(if your project is primarily research based still include costs an equipment as if you were to produce a prototype)
- 5) Identify significant milestones for the whole project.
For **your** particular areas of the project generate one gateway objective in detail.
- 6) Identify **two** areas of concern within **your** section of the project and suggest suitable methods to mitigate the risk.
- 7) Generate an overall summary Gantt chart for the whole project and generate a second more detailed plan for the section of the project that you are responsible for. The plan should identify significant milestones and gateways.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

1) An abstract of the project

This is description of your project. What the team is doing, why are you doing it? What are the project objectives? And how will you measure success?

2) List all team member's roles and responsibilities within the project.

Identify the skills and personality traits required for **your** role, make reference to 'Belbin's' model.

This part is in two sections.

- i) You should list the group roles so the reader (and you) can understand who is doing what. This will be a joint list shared between the group and hence does not carry many marks.
- ii) Here you should expand upon **your** roles and look at the skills and personality traits that are required for **your** roles that you stated previously. You can then analyse the self assessment you completed during the lecture on team work and motivation. You then look at the difference and comment. (Belbin's model should not be referred to for any other team member).

3) A list of overall group tasks and associated timings

This is a list of all the things the group will be doing and the planned start and finish date for each task. These tasks should be generated by the whole group and hence do not carry many marks. A table is a good way to list the tasks (together with a small description of each one) together with the expected dates during which this task is expected to occur.

4) A detailed list of **your** tasks

This is worth a lot of marks and should be done in some detail.

A table is a good way to list the tasks (together with a small description of each one) and the hours you expect to take for each one, together with dates, this will form the basis of your personal gantt chart. There should be enough detail you enable you to (in the real world) cost the whole project. Therefore you should include time for reporting and presentation preparation, regular project meetings etc.

Total hours should be around 200, which is the expected student effort per module (are you shocked?).

-

You should then add a Preliminary '**Bill of Materials**' with approx costs and purchase lead times. If you are not actually making something then you can pretend/estimate these values. Please do not contact companies for quotes, just do some basic research for approximate prices.

-List of any **specialist equipment** required. If you need eg a flat-bed, flow bench, dynamometer (or anything else eg specialist software) then you will need to find out its availability.

5) **Identify significant milestones for the whole project.**

These are important dates, obviously assessment dates should be included, together with other project dates. The project should last at least until the final assessments. However sometimes it is likely that a real project will have track tests or event dates in June and July etc, therefore the plan will extend until then. You will need enough dates to monitor progress.

For **your** particular areas of the project generate **a** gateway objective (select just one and do it well)

This is **really important**. Engineering projects are controlled, not just by milestones, but more importantly, by gateways. A gateway must have strict measurable (objective) performance criteria attached to it. Therefore numbers as % improvements or absolute values are expected, for both technical performance and cost performance.

6) Identify **two** areas of concern within **your** section of the project and suggest suitable methods to mitigate the risk.

These are not general project problems, but potential problems/concerns/risks, that may prevent you from delivering (a task objective) from your section of the project. So think of how it may go wrong and consider a variety of techniques, or strategies, that you could use to reduce the risk of the task performance objectives and timing not being met (going pear shaped).

7) Generate an **overall summary Gantt chart for the whole project.**

This is a common gantt for the whole group, they should all be the same for your group. Therefore it is not worth many marks. It should show all or some of the group milestones that you have previously identified, together with the **interdependence** between tasks.

Then generate a more detailed gantt plan for the section of the project that **you are responsible** for. The plan should identify significant milestones and gateways. You will use this to monitor your progress, including hours worked and results. Obviously you have predicted the hours, some tasks will take longer than expected and (hopefully) some tasks will be done more quickly. You will then know when you should do more hours of work to get back on track/plan, and when you can get on with the next task. Remember you can start a task earlier than planned if the predecessors have been completed. This may mean that you are ahead of plan (what a nice place to be).

NB An example Excel project planning template will be available on Moodle

Produce a paper report in A4 format (A3 sheets may be included if folded)

Include the cover sheets identifying the module and assignment title, the group project title, do not forget to include the author's name and sign the declaration stating that it all your own work. For the joint areas such as joint team tasks and joint gantt remember to reference these as a 'team' effort.

The target word count is 2500 words, so be direct and brief.

Please remember that Gantt charts should be legible and have real dates – not week numbers.

An electronic submission is also required through Turn-It-In.

MARKING CRITERIA AND STUDENT FEEDBACK

This section details the assessment criteria. The *extent* to which these are demonstrated by you determines your mark. The marks available for each criterion are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Common Assessment Criteria Applied	Marks available	Marks awarded
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions.		
Evidence of further reading and appropriate referencing	5	
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.		
Abstract/Introduction	5	
General Team Roles	10	
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence		
Overall Tasks	5	
Your Tasks	25	
Milestones and a significant Gateway	25	
4. Practical Application and Deployment Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems.		
Risk Management	10	
Gantt Charts	10	
5. Skills for Professional Practice Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation.		
Report Presentation	5	

Assignment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)	Late Submission Penalties (tick if appropriate)		%
	Up to one-week late		
	Over one week late		

COMMON ASSESSMENT AND MARKING CRITERIA

	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
Assessment Criteria	0-29%	30-39%*	40-49%	50-59%	60-69%	70-79%	80-100%
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions	Little or no evidence of reading. Views and findings unsupported and non-authoritative. Referencing conventions largely ignored.	Poor evidence of reading and/or of reliance on inappropriate sources, and/or indiscriminate use of sources. Referencing conventions used inconsistently.	References to a limited range of mostly relevant sources. Some omissions and minor errors. Referencing conventions evident though not always applied consistently.	Inclusion of a range of research-informed literature, including sources retrieved independently. Referencing conventions mostly consistently applied.	Inclusion of a wide range of research-informed literature, including sources retrieved independently. Selection of relevant and credible sources. Very good use of referencing conventions, consistently applied.	A comprehensive range of research informed literature embedded in the work. Excellent selection of relevant and credible sources. High-level referencing skills, consistently applied.	Outstanding knowledge of research-informed literature embedded in the work. Outstanding selection of relevant and credible sources. High-level referencing skills consistently and professionally applied.
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.	Major gaps in knowledge and understanding of material at this level. Substantial inaccuracies.	Gaps in knowledge, with only superficial understanding. Some significant inaccuracies.	Evidence of basic knowledge and understanding of the relevant concepts and underlying principles.	Knowledge is accurate with a good understanding of the field of study.	Knowledge is extensive. Exhibits understanding of the breadth and depth of established views.	Excellent knowledge and understanding of the main concepts and key theories. Clear awareness of challenges to established views and the limitations of the knowledge base.	Highly detailed knowledge and understanding of the main theories/concepts, and a critical awareness of the ambiguities and limitations of knowledge.
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence	Unsubstantiated generalisations, made without use of any credible evidence. Lack of logic, leading to unsupported/missing conclusions. Lack of any attempt to analyse, synthesise or evaluate.	Some evidence of analytical intellectual skills, but for the most part descriptive. Ideas/findings sometimes illogical and contradictory. Generalised statements made with scant evidence. Conclusions lack relevance.	Evidence of some logical, analytical thinking and some attempts to synthesise, albeit with some weaknesses. Some evidence to support findings/views, but evidence not consistently interpreted. Some relevant conclusions and recommendations, where relevant	Evidence of some logical, analytical thinking and synthesis. Can analyse new and/or abstract data and situations without guidance. An emerging awareness of different stances and ability to use evidence to support the argument. Valid conclusions and recommendations, where relevant	Sound, logical, analytical thinking; synthesis and evaluation. Ability to devise and sustain persuasive arguments, and to review the reliability, validity & significance of evidence. Ability to communicate ideas and evidence accurately and convincingly. Sound, convincing conclusions / recommendations.	Thoroughly logical work, supported by evaluated evidence. High quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Strong, persuasive, conclusions, justifiable recommendations.	Exceptional work; judiciously selected and evaluated evidence. Very high quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Highly persuasive conclusions
4. Practical Application and Deployment Effective deployment of appropriate methods, materials, tools and techniques; extent of skill demonstrated in the application of concepts to a variety of processes and/or contexts; formulation of innovative and creative solutions to solve problems.	Limited or no use of methods, materials, tools and/or techniques. Little or no appreciation of the context of the application.	Rudimentary application of methods, materials, tools and/or techniques but without consideration and competence. Flawed appreciation of the context of the application.	An adequate awareness and mostly appropriate application of well established methods, materials, tools and/or techniques. Basic appreciation of the context of the application.	A good and appropriate application of standard methods, materials, tools and/or techniques. Good appreciation of the context of the application, with some use of examples, where relevant.	A very good application of a range of methods, materials, tools and/or techniques. Very good consideration of the context of the application, with perceptive use of examples, where relevant. Evidence of some innovation and creativity.	An advanced application of a range of methods, materials, tools and/or techniques. The context of the application is well considered, with extensive use of relevant examples. Application and deployment extend beyond established conventions. Innovation and creativity evident throughout.	Outstanding levels of application and deployment skills. Assimilation and development of cutting edge processes and techniques.
5. Skills for Professional Practice Demonstrates attributes expected in professional practice including: individual initiative and collaborative working; deployment of appropriate media to communicate (including written and oral); clarity and effectiveness in presentation and organisation.	Communication media is inappropriate or misapplied. Little or no evidence of autonomy in the completion of tasks. Work is poorly structured and/or largely incoherent.	Media is poorly designed and/or not suitable for the audience. Poor independent or collaborative initiative. Work lacks structure, organisation, and/or coherence	Can communicate in a suitable format but with some room for improvement. Can work as part of a team, but with limited involvement in group activities. Work lacks coherence in places and could be better structured.	Can communicate effectively in a suitable format, but may have minor errors. Can work effectively as part of a team, with clear contribution to group activities. Mostly coherent work and is in a suitable structure.	Can communicate well, confidently and consistently in a suitable format. Can work very well as part of a team, with very good contribution to group activities. Work is coherent and fluent and is well structured and organised.	Can communicate professionally and, confidently in a suitable format. Can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Work is coherent, very fluent and is presented professionally.	Can communicate with an exceptionally high level of professionalism. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Work is exceptionally coherent, very fluent and is presented professionally.

Student Self Evaluation Form

Student name:		Student P number:	
Programme:		Year of programme	
Assignment Title:			

This section repeats in brief the common assessment criteria detailed on previous pages. The *extent* to which these are demonstrated by you determines your mark. Using these criteria, tick the box that best indicates the level of achievement you feel you have achieved with regard to each of them.

Common Assessment Criteria Applied	Level of Achievement						
	REFER		3 rd	2:2	2:1	1 st	1 st
	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
1. Research-informed Literature	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
2. Knowledge and Understanding of Subject	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
3. Analysis	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
4. Practical Application and Deployment	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
5. Skills for Professional Practice	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐

PLEASE COMMENT ON AREAS IN WHICH YOU FEEL THAT YOU HAVE PERFORMED WELL	PLEASE COMMENT ON AREAS YOU FEEL THAT YOU NEED TO DEVELOP

Student's Name		Date	
Student's Signature			