



<b>Document Title:</b>	DISSERTATION ASSESSMENT CRITERIA AND GRADING RUBRIC – INSTITUTE OF ENGINEERING AND TRANSPORT (MQF 6)			<b>Page 1 of 4</b>	
<b>Document Number</b>	377	<b>Document Revision</b>	A	<b>Date Issued</b>	04.07.2022

### 1. Preface

This Dissertation Assessment Criteria and Grading Rubric has been created to ensure a more robust and flexible grading rubric for the diverse types of dissertations which are undertaken by IET students. The Rubric, which is interactive and automates the calculations which were previously required to be done manually, aims to allow Tutors to categorise and grade student dissertations from amongst four different types of dissertations for a more student-centric approach.

### 2. User Guidelines

**STEP 1.** Tutor: Compile the student data (Page 1 - below)

**STEP 2.** Tutor: Assign "Tutor's Marks" to all relevant criteria within Parts A and B.

**STEP 3.** Tutor: Fill in the feedback form on Page 3 and signs the document (image).

**STEP 4.** Tutor: Save Rubric (button at the bottom of Page 3). Send to the VIVA chair.

**STEP 5.** VIVA Chair: Assigns marks within Part C after VIVA.

**STEP 6.** VIVA Chair: Saves Rubric (button at the bottom of this file).

**STEP 7.** VIVA Chair: Prints Rubric and Feedback document.

**STEP 8.** VIVA Chair: Signs document (get tutor's signature if not signed electronically).

### 3. Student Data

<b>Student Name:</b>	
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<b>Course Title:</b>	
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<b>Tutor Name:</b>	
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<b>Date of assessment:</b>	
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<b>Dissertation title:</b>	
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MCAST		Institute of Engineering and Transport Dissertation Grading Rubric					MCAST		
Part A: Transverse Skills (To be compiled by the Tutor) - Weight: 40%									
<b>1. Initiative and motivation</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	Student picks up some initiatives and/or ideas suggested by others (e.g. tutor), but the selection is not motivated.	Student shows some initiative and/or together with the tutor develops one or two ideas on minor parts of the research.	Student initiates discussions on ideas with tutor and develops one or two own ideas on parts of the research.	Student is proactive, he/she comes up with his own creative ideas on hypothesis formulation, design or data processing.	Student is exceptionally proactive and motivated. He/she develops innovative (can also be copied from other contexts) research methods or designs or data processing methods.				
<b>2. Creativity</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	Student has no ideas of his own and demonstrates inability of 'thinking out of the box'. He just executes what the tutor says without using any of the creative thinking tools.	Student demonstrates some creativity after being probed several times by the tutor. The design solutions are not innovative in the field.	Student identifies problems and together with the tutor develops creative solutions. Solutions might be copied from another context.	The student demonstrates to be creative by the research methods used, or design solutions provided. He is knowledgeable about the creative thinking tools and uses them in his work to come up with effective solutions.	The student repeatedly demonstrates outstanding creativity by the research methods used, or design solutions provided. He repeatedly finds effective solutions to problems by thinking out of the box and by the use creative thinking tools.				
<b>3. Commitment and perseverance</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	Student shows little commitment. Tends to be distracted easily. Has given up once or twice. Often chooses to take short cuts with the result of obtaining a poor quality of work.	Student is committed at times, but often, sees the work as a compulsory task. Is distracted from dissertation every work now and then. At times short cuts were taken to the detriment of the work done.	The student commitment can be felt occasionally. The student overcomes an occasional setback with help of the tutor.	The student is committed during most of the study. He/She overcomes setbacks on his own and perseveres to achieve a good study.	The student is very committed, goes at length to get the most out of the project. His exceptional perseverance helped in achieving more than what was required initially.				
<b>4. Project management (inc. time management)</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
8 Marks	1-2	3-4	5-6	7-8	9-10				
	Project planning is inexistant. A Gantt chart was not used and backup plan was absent. Work was done contingently without consideration of what needs to be done next.	Project plan is undetailed. Gantt chart was not used and backup plan was absent. Work was done contingently without consideration of what needs to be done next.	Project planning is good but at times, not detailed enough. Aspects of the Gantt chart are not feasible and backup strategies are insufficient.	Project management was quite satisfactory. A Gantt chart was effective at keeping main milestones on target. Backup strategies were sometimes absent.	The dissertation was managed brilliantly. A detailed Gantt chart was done at the very beginning and monitored and updated along the way. Backup plans were effective at addressing setbacks and milestones were thus met.				
<b>5. Critical Thinking (inc. Handling feedback)</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
10 Marks	1-2	3-4	5-6	7-8	9-10				
	Student is not able to point out strengths and weaknesses of the research (plan). The tutor needs to act as an instructor and constantly needs to suggest solutions for problems.	Student is able to point out some strengths and weaknesses of the research (plan). Student incorporates some of the comments of the tutor, but ignores others without arguments.	Student is able to identify some strengths and weaknesses of the research study however has no idea how to improve the study. The tutor's comments are generally followed.	Student is able to identify strengths and weaknesses of the research study however does not elaborate on a proposal to provide solutions to the weaknesses found. The tutor's comments are weighed by the student and asked for when needed.	Student is able to point out most of the strengths and weaknesses of the research (plan) and is able to give some constructive suggestions for improvement. The tutor's comments are critically weighed by the student. Suggestions were also obtained from other staff members or students.				
<b>6. Writing skills</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
<b>6.1. Dissertation Structure and Flow</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
5 Marks	1-2	3-4	5-6	7-8	9-10				
	BSc dissertation not structured according to DOC_100, with no proper flow from one section to the other. Dissertation format does not confirm to the required format	Main structure is correct, but needs further improvements. There are certain sections that are not logically flowing with some sections have overlapping functions leading to ambiguity in placement of information.	The research presented, is good overall but more work and attention would have improved it. Main structure correct, but certain level of detail is missing which could have improved the overall work.	The overall structure is good with most sections having a clear and unique function and presented in a logical sequence. In most places level of detail is appropriate but still needs some improvements in some areas.	Well-structured: each section has a clear and unique function with very good flow from one section to the next. Level of detail is very good throughout as is to be expected of a dissertation				
<b>6.2. Clarity and use of technical terminology</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
5 Marks	1-2	3-4	5-6	7-8	9-10				
	Too many grammatical errors that make the dissertation almost impossible to understand. Needs major improvements	English writing poorly structured with limited use of technical terminology	Some spelling and grammatical errors still present with little technical terminology as is required of such a dissertation	The student expressed himself technically quite well. English correct and pleasant to read.	English is fluent and pleasant to read at the level of what is written in peer-reviewed journals. Consistent use of the appropriate terminology throughout.				
<b>Part B: Dissertation Report (To be compiled by the tutor) - Weight: 50%</b>									
<b>7. Problem definition, relevance and clarity (research set-up)</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	The context of the topic is rather vague with the research questions being unclear. There is no link to existing research on the topic.	The link between the dissertation research and existing research does not go beyond the information provided by the tutor.	The student did make an effort to try and define the problem and the context of his research. However some improvements still needed at some points.	The context of the research is clear. Research questions emerge directly from the described context.	Research is positioned sharply in the relevant scientific field. Student is able to indicate the novelty and innovation of the research.				
<b>8. Theoretical underpinning, use of literature, use of standards and referencing</b>									
<b>8.1. Theoretical underpinning of course content</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	There is some discussion of underlying theories, but the description shows serious errors.	Student has found the relevant theories, but the description has not been tailored to the project at hand or shows occasional errors.	Student has found the relevant theories, and has been partially successful in tailoring the description to the project at hand. Few errors occur.	Student has found the relevant theories, makes a synthesis of those, and has been successful in tailoring the description to the project at hand.	Clear, complete and coherent overview of relevant theories. Exactly tailored to the project at hand.				
<b>8.2. Use of literature, standards and referencing</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
4 Marks	1-2	3-4	5-6	7-8	9-10				
	Referencing is rather lacking and student is often not following logically in their use. No standards shown whenever needed	Some peer-reviewed papers are included but more was expected to be included in the work. Standards are vaguely mentioned	Relevant peer-reviewed papers in reference list but not enough included. More research on the subject was expected. Standards are mentioned wherever required but not presented properly	Mostly peer-reviewed papers or specialized monographs in reference list. Standards are properly presented but could have been more structured.	Student made a comprehensive referencing and used the latest papers available on the subject. The standards included are to the required level requested, are properly presented according to the research being carried out.				
<b>9. Research methodology and data analysis</b>								<b>Tutor's Mark (Max 10)</b>	<b>Actual Mark</b>
8 Marks	1-2	3-4	5-6	7-8	9-10				
	Insufficient information on methods and poor analysis of the information.	Some aspects of the project regarding methods and analysis of acquired data are briefly described. However in depth analysis is lacking.	Some features of descriptive methods and analysis of information/data is present but not in sufficient quantity. Used methods and analysis of data/information mostly appropriate.	Description of methods and analysis of information/data is mostly complete, but there are lacking some details.	Description of methods used and analysis of the information is appropriate, complete and clear.				

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**10. Analysis and processing of data: a) Quantitative data analysis, b) model development, c) experimental work, d) qualitative data analysis.**
*IMPORTANT: Check the applicable criteria that are relevant for the dissertation of the student (using the check boxes). If more than one criteria is chosen then the marks will be automatically averaged across these criteria.*

a) Quantitative Data Analysis & Validation						Tutor's Mark (Max 10)	Actual Mark
	1-2	3-4	5-6	7-8	9-10		
10 Marks*	Student is not able to perform checks and/or simple analyses of the data that he has acquired.	Student is able to organize data and perform some simple checks; but the way the data is used does not clearly contribute to answering the research questions and/or student is unable to analyse the data independently.	Student is able to organize the data, perform some basic checks and perform basic analyses that contribute to the research question.	Student is able to organize the data, perform commonly used checks and perform some advanced analyses on the data to validate the research question.	Student is able to organize the data, perform thorough checks and perform advanced and original analyses on the data to investigate the validity of the research question in an accurate way.		

AND/OR

b) Model development						Tutor's Mark (Max 10)	Actual Mark
	1-2	3-4	5-6	7-8	9-10		
10 Marks*	Student is either not able to make some modifications/additions to an existing model, or is able to make minor modifications to an existing model, but errors occur and persist. No validation.	Student is able to make minor modifications (e.g. a single formula) to an existing model. Superficial validation.	Student is able to make major modifications to an existing model, based on literature. Validation using some basic measures of quality is noted.	Student is able to make major modifications to an existing model, based on literature or own analyses. Validation using appropriate statistical measures are included.	Student is able to develop a model from scratch, or add an important new part to an existing model. Excellent theoretical basis for modeling as well as use of advanced validation methods.		

AND/OR

c) Experimental work						Tutor's Mark (Max 10)	Actual Mark
	1-2	3-4	5-6	7-8	9-10		
10 Marks*	Student is not able to setup and/or execute an experiment or needs continuous help from his tutor	Student is able to execute an experiment that has been designed by someone else but tutor's support is needed.	Student is able to execute an experiment that has been designed by someone else. Takes sources of error and uncertainty into account in a qualitative sense.	Student is able to judge the setup of an existing experiment and to include modifications where needed. Takes into account sources of error and uncertainty quantitatively.	Student is able to setup or modify an experiment exactly tailored to answering the research questions. Quantitative consideration of sources of error and uncertainty. Execution of the experiment is flawless.		

AND/OR

d) Qualitative Data Analysis						Tutor's Mark (Max 10)	Actual Mark
	1-2	3-4	5-6	7-8	9-10		
10 Marks*	Student is able to organize the data collected, and consequently the insights and conclusions present are inappropriate	Student is able to organize the data collected but the analysis used was not effective to lead the researcher to formulate a theory or to answer the research question.	Student is able to organize and present the data collected appropriately and the analysis adopted shows an insight to what the theory might lead to but more insights are needed to effectively solidify the theory and consolidate the answer to the research question.	Student is able to organize and present the data collected appropriately and the analysis adopted helped to generate the theory appropriately but additional cases were needed to consolidate the answer to the research question.	Student is able to organize the data collected appropriately and the analysis adopted helped to generate the theory appropriately. Sufficient cases were presented which helped to consolidate the theory and answer the research question.		

**11. Evaluation and Presentation of Results**

	1-2	3-4	5-6	7-8	9-10	Tutor's Mark (Max 10)	Actual Mark
7 Marks	The results are presented and explained in a way that superficially or incompletely describes the relationships in the data and their accurate interpretation for the study's objective. The reader is not able to understand what results were achieved.	Results or their connection to the research questions / hypothesis are unclear. Text, figures, graphs, tables etc. contain several flaws.	Results are enumerated understandably and correctly, and are connected to the research questions / hypothesis. Text, figures, graphs, tables, etc. are appropriate and show few flaws.	Results are presented correctly and efficiently. Text, figures, graphs, tables etc. are linked to the goals of the research questions / hypothesis in a logical way. Text, figures, graphs, tables, etc. are appropriate and correct.	Results are presented flawlessly and efficiently, with a clear storyline connecting the various results. Text, figures, graphs, tables etc. are well-chosen or original, and efficiently guide the reader to understand what results were achieved in relation to the research questions / hypothesis.		

**12. Critical discussion**

	1-2	3-4	5-6	7-8	9-10	Tutor's Mark (Max 10)	Actual Mark
8 Marks	No reflection on the results of the research. Discussion only touches invalid, trivial or overly general points of criticism. No confrontation with existing literature	Student identifies only some points of weakness in the research or weaknesses which are in reality irrelevant or non-existent. Only marginal confrontation vis-a-vis existing literature, while mostly incomplete and irrelevant	Student indicates weaknesses in the research, but impacts on the conclusions are not weighed relative to each other. Student identifies only most obvious conflicts and correspondences with existing literature. Student tries to describe the added value of his study but does not relate this to existing research.	Student indicates all weaknesses and strengths in the research, evaluates their impacts on the conclusions, and weighs their impact on the conclusions relative to each other. Furthermore, (better) alternatives for the methods used are indicated. Student shows minor and major conflicts and correspondences with literature and can identify the added value of his research relative to existing literature.	Student indicates both strengths and weaknesses in the research, evaluates their impacts on the conclusions and weighs their impact on the conclusions relative to each other. Furthermore, original/innovative (better) alternatives for the methods used are specified. Student critically confronts results to existing literature and in case of conflicts is able to weigh own results relative to existing literature. Student is able to identify the contribution of his work to the development of scientific concepts		

**13. Holistic Analysis and conclusions**

	1-2	3-4	5-6	7-8	9-10	Tutor's Mark (Max 10)	Actual Mark
5 Marks	No link between research questions, results and conclusions. No recommendations given.	Conclusions are drawn, but in many cases these are only partial answers to the research question. Conclusions merely repeat results or conclusions are not substantiated by results. Recommendations are absent or trivial.	Conclusions are linked to the research questions, but not all questions are addressed. Some conclusions are not substantiated by results or merely repeat results. Some recommendations are given, but the link of those to the conclusions is not always clear.	Clear link between research questions and conclusions. All conclusions substantiated by results. Conclusions are formulated exact. Recommendations are to-the-point, well-linked to the conclusions and original.	Clear link between research questions and conclusions. Conclusions substantiated by results. Conclusions are formulated exact and concise. Conclusions are grouped/ordered in a logical way. Recommendations are to-the-point, well-linked to the conclusions, original and are extensive enough to serve as project description for a new		

**Part C: VIVA (to be compiled by the Board Members) - Weight: 10%**

**14. Presentation and correctness of research findings (The way the student presented the dissertation)**

	1-2	3-4	5-6	7-8	9-10	VIVA Mark (Max 10)	Actual Mark
5 Marks	Presentation is chaotic. Based on what is presented the audience is not able to understand what results were achieved. Student is not able to defend/discuss his thesis. The student has difficulty to explain the subject matter of the dissertation.	Presentation has unclear structure or layout. Student is able to answer only the simplest questions. Student presents no clear conclusions, merely repeats results or does not substantiate conclusions by results, or only addresses part of the research questions / hypothesis.	Presentation is structured, though the audience gets lost in some places. Student answers informative questions well, but has difficulty to deal with in-depth questions. He masters the contents of what he wrote, but not beyond that. Student is not able to place dissertation in scientific or practical context.	Presentation has a clear structure, is concise and to-the-point. Good separation between main message and secondary-steps. Student is able to defend his dissertation, including indications where the work could have been done better. Student is able to place dissertation in either scientific or practical context. Student substantiates all conclusions by results.	Presentation is very well structured, is concise and to-the-point. Results are presented flawlessly. Line of argumentation is clear, logical and convincing throughout. Student is able to freely discuss the contents of the dissertation and to place the dissertation in the context of current scientific literature and practical contexts.		

**15. Knowledge study domain**

	1-2	3-4	5-6	7-8	9-10	VIVA Mark (Max 10)	Actual Mark
5 Marks	Student did not show that he mastered the most basic knowledge on the specific domain being tackled (even though discussed in the dissertation).	The student understands the subject matter of the dissertation on a textbook level. Student limits themselves to discussing exclusively their own data/topic, deviating from the broader questions.	The student understands the subject matter of the dissertation on a textbook level and realizes the importance of literature without using it. The student had difficulty placing the dissertation contents in scientific, societal or practical context.	The student understands the subject matter of the dissertation including the literature used in it. Student engages in a discussion about the contents of the research and relevant current knowledge.	Student engages in a lively and in-depth discussion about the contents of the research and relevant current knowledge and contexts. Student is well on top of study domain of the dissertation. Not only does he understand but he is also aware of current discussions in the literature related to the dissertation		

<b>TOTAL Mark (Max 100)</b>	
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## IET Degree Dissertation Grading



### Result & Feedback

Student's name	
Institute's name and Department	
Dissertation Title	
Tutor's name	
Grade awarded Out of 100	
No. of meetings held with student	
Tutor's feedback	
Tutor's signature	
Date of issue of this report	

*Once the tutor completes the above rubric and feedback form, the document needs to be saved using the below button and sent to the VIVA chair to complete Part C of the rubric during the VIVA.*

*After the VIVA, the VIVA chair is to complete Part C and save the document. The final Rubric and Feedback form are to be printed and then signed by the Tutor (above) and the VIVA Chair (below).*

VIVA Chair signature and date	
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End of document