HAN_UNIVERSITY OF APPLIED SCIENCES

Major project: Evaluation and Awarding Marks

Name, first name	**Dhanesh Babu Pobbathi, Dinakar**
Student number	**600293**
Topic	**Implementation of Autodocking Controller onto an Articulated Vehicle**
Company	**HAN Automotive Research / Terberg Benschop**
Company representative	**Rakshith Kusumakar, Lennart van Deutekom, Tristan Smis**

Evaluation (for criteria cf. back of this sheet)

	Mark	Motivation
Knowledge and understanding C1: Analyzing and defining problems C5: Conducting Research Weight factor 1	8	Fundamental understanding of the research problem. Proper approach towards solutions.
Applying knowledge and understanding C2: Design C3: Testing C4: Managing work processes Weight factor 1	9	Merging of Terberg and HAN models Applying appropiate techniques to solve the problems. Compatibility performance executed.
Making judgments C1: Analyzing and defining problems C2: Design C4: Managing work processes C5: Conducting Research Weight factor 1	9½	Worked in an independent way. Average self-critivism.
Communication C1: Analyzing and defining problems C6: Communication and Collaboration Weight factor 1	7	Presentation too long, too much information. Report could have been beter. Good cooperation within company.
Learning Skills C7: Professional development Weight factor 1	7½	Good professional development in the project
Mark total	7,8 8	

Date : 17 December 2019

Signature examiner 1 : Hans Bosma

Signature examiner 2 : Karel Kural

In case you disagree with your mark, first contact your examiners. When you still disagree with your examiners, contact the Exam Board of the Master Engineering Systems for a final decision within a week after the defence date.

Master Degrees

Qualifications which signify the completion of the second cycle (Master degrees) are awarded to students who have completed a program of study that enables them to show:

- knowledge and comprehension that is founded upon, extends and enhances knowledge and comprehension associated with the Master level, and is at the forefront of a field of learning

- a critical awareness of current problems and new insights, new tools and new processes within their field of learning, or the development of professional skills

- that they can apply their knowledge and comprehension, their critical awareness and problem solving abilities, within the context of research, or in the development of professional skills, in broader or multidisciplinary areas related to their fields of study

- that they can integrate knowledge and handle complexity, to formulate judgments with incomplete or limited information, either individually or in groups, which includes (where relevant) reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments

- that they can lead or initiate activity, and take responsibility for the intellectual activities of individuals or groups

- that they can communicate their conclusions, and knowledge, rationale and processes underpinning these, to specialist and non-specialist audiences clearly and unambiguously

- that they possess the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

Master Degrees

Qualifications which signify the completion of the second cycle (Master degrees) are awarded to students who have completed a program of study that enables them to show:

DUBLIN DESCRIPTOR	QUALIFICATION
Knowledge and understanding Provides a basis or opportunity for originality in developing or applying ideas often in a research context.	*Analyzing and defining problems:* To be able to critically analyze the engineering problem through active communication with the problem owner, to translate this to a problem formulation, feasible solution approaches and scientifically valid conclusions and recommendations, to be communicated again to the problem owner. *Conducting research:* To have gained specialized scientific knowledge and skills in the field of engineering.
Applying knowledge and understanding Through problem solving abilities applied in new or unfamiliar environments within a broader (or multidisciplinary) context.	*Design:* To be able to systematically translate the engineering problem to a model at an abstract level, (i.e. reducing it to its essentials in terms of model and problem requirements) and to validate results against the real life situation and problem formulation. Testing: To be able to systematically translate the engineering problem to a concrete level, and to validate results against the real life situation and problem formulation. *Managing work processes:* To be able to put engineering activities within the perspective of engineering company processes, including quality control principles. To be able to incorporate the economical (cost) and societal (safety, sustainability) consequences in the design or development process.
Making judgements Demonstrates the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete data.	*Conducting research:* To have gained specialized scientific knowledge and skills in the field of engineering. *Analyzing and defining problems:* To be able to critically analyze the engineering problem through active communication with the problem owner, to translate this to a problem formulation, feasible solution approaches and scientifically valid conclusions and recommendations, to be communicated again to the problem owner. *Design:* To be able to systematically translate the engineering problem to a model at an abstract level, (i.e. reducing it to its essentials in terms of model and problem requirements) and to validate results against the real life situation and problem formulation. *Managing work processes:* To be able to put engineering activities within the perspective of engineering company processes, including quality control principles. To be able to incorporate the economical (cost) and societal (safety, sustainability) consequences in the design or development process.
Communication Of their conclusions and underpinning knowledge and rationale (restricted scope) to specialist and non-specialist audiences (monologue).	*Analyzing and defining problems:* To be able to critically analyze the engineering problem through active communication with the problem owner, to translate this to a problem formulation, feasible solution approaches and scientifically valid conclusions and recommendations, to be communicated again to the problem owner. *Communication and collaboration:* Being able to work on a problem within a multidisciplinary context in an industrial environment. Being able to work on a problem in an international engineering context in an industrial environment.
Learning skills Study in a manner that may be largely self-directed or autonomous.	*Learning skills:* To be able, through self-reflection, to improve one's own professional acting

GUIDELINES

Criteria:
The following questions pertaining to the individual criteria are not final and can vary in importance depending on the type of major project.

Knowledge and understanding (Dd1)

Provides a basis or opportunity for originality in developing or applying ideas often in a research context.

Criteria to scientific know-how:

- Has the student demonstrated relevant product knowledge and expertise in the field?
- Do the student's results show complexity and depth?
- Has the candidate acquired appropriate knowledge?

Criteria to independent scientific thinking / originality:

- Does the candidate use and develop original ideas?
- Are known ideas interwoven in a new way?
- Are the core findings presented in clear statements?
- Does the major project incorporate critical appraisal?
- Are the possibilities and limitations of the applied method discussed?

Criteria to logic of the structure, scientific argumentation

- Have the central questions been answered?
- Is a comparison made between the results and published data? Are the results placed in a broader context?
- Are generalizations supported by facts?
- Are the facts clearly distinguishable from hypotheses and suppositions?
- Is the exposition of the topic clear, are the aims logically stated?
- Does the major project include clearly formulated hypotheses?
- Does the structure of the major project show a logical approach to the topic?
- Are the results of the research and conclusions clearly and logically presented?

Applying knowledge and understanding (Dd2)

Through problem solving abilities applied in new or unfamiliar environments within broader (or multidisciplinary) context.

Criteria:

- Does the candidate show sufficient familiarity with current knowledge (literature, experiments)?
- Is reference made to gaps in knowledge, based on analyses of literature?
- Are the methods and techniques properly used and described?
- Are the methods adopted appropriate to the subject matter?
- Has the research (field work, collecting data, experiments, models, etc.) been carried out carefully and adequately?
- Have international sources of information been explored appropriately?
- Has the relevant state of art been discussed adequately, from an international industrial perspective?
- Have the results been sufficiently tested by statistical analyses?

- Do the student's project results show consideration for stakeholders?
- Do the student's project results demonstrate a structured approach?

Making judgments (Dd3)

Demonstrates the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete data.

Criteria:

- Has the student presented a clear justification for his/her approach, based on quantifiable choices?
- Has the student verified the design?
- Is the student able to correctly interpret and evaluate the quality?
- Have issues been mentioned that have not been dealt with?
- Has the research been carried out independently?
- Has critical appraisal been successfully incorporated?

Communication (Dd4)

Of the conclusions and underpinning knowledge and rationale (restricted scope) to specialist and non-specialist audiences (monologue).

Criteria:

- Is the student able to operate independently enough in the professional field?
- Is the student able to guide his own work and that of others?
- Does the student cooperate with others in an organization?
- Does the student plan effectively and carry those plans through?
- Can the student communicate his/her conclusions, and knowledge, rationale and processes underpinning these, to specialist and non-specialist audiences clearly and unambiguously?
- Is the student able to present the content in a convincing way?
- Does the student get the message across?
- Has the student formulated concrete recommendations based on the results?
- Is the student able to effectively converse with people from other relevant fields?
- Have the formal requirements for diagrams, tables, literary sources etc. been met?
- Is there a comprehensive informative summary?
- Is the text scientifically correct, clearly understandable and written in grammatically sound language?
- Is the layout attractive for readers?

Learning Skills (Dd5)

Study in a manner that may be largely self-directed or autonomous.

Criteria:

- Does the candidate display discernible keenness to tackle the task?
- Has the student taken a clear responsibility in the project, taking initiative in the project, finding his way within the company?
- Has the problem owner (company) been involved adequately, has feedback been actively explored and used in the project?
- Has the student displayed out-of-the-box thinking?
- Is the student able to make the transition to other areas of expertise?
- Does the student reflect on his/her choices, initiatives and judgments?