

**Student Information**

Student Name:

ID-Number:

Date:

Title Project:

TU/e First Assessor Name:

Internship PhD: *if relevant*

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Grade Interim Report

20%

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**Signatures**

*Only sign the form when it is complete. Do not make any further changes after signing.*

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Signature First Assessor

## USER MANUAL OF THE BEP RUBRIC

Ideally, the bachelor end project (BEP) should demonstrate that a student has achieved all the learning goals of Psychology and Technology (PT) bachelor programme at a sufficient level before awarding the diploma. This way the quality of the student and the value of the PT bachelor diploma can be guaranteed. However, the learning outcomes of the PT programme are phrased in terms of ACQA<sup>1</sup> competences, whereas main deliverable is the bachelor thesis, which should meet scientific standards. This rubric for the bachelor end project (BEP) thesis is designed to make the relation between the two as explicit and transparent as possible.

### The rubric is designed with the following goals in mind:

- The rubric makes sure that all learning outcomes are represented in the form of ACQA<sup>1</sup> competences, while still being as concise as possible.
- In addition, the relation between the actual deliverables of the BEP is made explicit by listing the features of the bachelor thesis, the writing skills and process that can be used to assess a given competence (first column).
- In accordance with the recommendations of the visitation committee, the engineering knowledge and skills are made explicit. The engineering skills and knowledge should reflect the student's abilities in his or her chosen specialization track (ICT, Living or Robotics).
- By making the criteria for grading explicit, the assessments from different teachers should be more homogeneous and counteract different practices. For junior teachers it should be easier to assess a given bachelor thesis. Given that there is a wide variety between research topics of the BEP, the criteria for excellence should NOT be read as an exhaustive list, but as guidelines for interpreting the more abstract competences.
- The rubric is a formative feedback instrument that teachers can use to give feedback about the performance of the student. Each competence can be rated from Failed, via Insufficient to Excellent.
- The comment boxes are crucial for explaining why a certain competence was rated high or low.
- The rubric can also be used as a summative grading instrument. Both the first assessor and second assessor can assign partial grades for the report, process and writing skills.
- To enable independent assessments (mandatory), separate tick boxes and comment boxes are provided for the second assessor in sections A, B and C.

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### Usage:

- No "Failed" (1-4 band, marked with red) assessments are allowed in order to pass.
- The competences should be weighted roughly equally
- The sections of the report should be weighted roughly equally: Introduction + Title page, Methods, Results, Discussion, Engineering and ethics (10% each).
- The writing style should roughly make out 20%, so that the report corresponds to roughly 70% of the final grade
- The process is about 30% of the final grade.
- Teachers can deviate from these guidelines provided that they explain why they used a different weighting scheme.
- Providing a motivation is mandatory.
- **The first assessor keeps the form for own administration. The intermediate form does not need to be sent to the CSA IEIS. The grade of the intermediate report will also be on the final assessment form.**

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<sup>1</sup> Following the ACQA competence areas (Meijers, Overveld, and Perrenet, 2005), the intended learning outcomes of the BSc program are specified in terms of knowledge and skills of the graduates.

## A. Competent in Scientific Disciplines

### Introduction

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Critical analysis of literature in the technology domain.</li> <li>- Critical analysis of literature in the psychology domain.</li> </ul>	Role of theory is not clear. Literature used is (partly) irrelevant and/or insufficient to answer the research question.	Role of theory is insufficiently clear. Literature is only partially relevant.	The main theoretical concepts and their relations are defined and linked to the research question/aim.	The main theoretical concepts and their relations are clearly defined and linked to the research question/aim.	The research question/aim is reformulated in theoretical terms. The main theoretical concepts and their relations are clearly defined.	The research question/aim is reformulated in theoretical terms. The main theoretical concepts and their relations are clearly defined. The theoretical framework combines two or more bodies of relevant literature.

First Assessor:

### Methods

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Accurate description of technological systems and components.</li> <li>- Accurate description of relevant theories, models and research methods.</li> <li>- Accurate description of research design, experimental set-up, data collection procedure.</li> </ul>	No structured description of the research method and instruments.	Some steps of the research method are listed, but the approach is not reproducible.	The steps of the research method are listed the accuracy is limited.	Steps of the research method are listed and basically explained.	Steps of the research method are listed and explained in detail.	Extensive steps of the research method are listed and explained in great detail.

First Assessor:

## A. Competent in Scientific Disciplines

### Engineering and Ethics

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Accurate description of relevant mathematical/statistical/programming methods.</li> <li>- In depth reflection mathematical/statistical/programming methods.</li> </ul>	The student is not able to apply her/his engineering skills.	The engineering skills are too limited and/or there are doubts about the validity and reliability of the data and the methods to process the data.	Engineering skills are not very extensive but applied correctly. The validity and reliability of the data and the methods to process the data are sufficient.	Engineering skills are correctly applied. The validity and reliability of the data and the methods in which the data have been processed are adequately displayed and justified.	High-quality engineering skills are correctly applied. The validity and reliability of the data and the methods in which the data have been processed are adequately displayed and justified.	High-quality engineering skills are correctly applied and extensive collection of data. The validity and reliability of the data and the methods in which the data have been processed are meticulously displayed and justified.

First Assessor:

## B. Competent In Doing Research / Designing

### Introduction

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Research question(s) follow logically from the analysis of the literature, and the hypotheses are testable assumption that provide answers to the research question(s).</li> <li>- Design problem follows logically from the analysis of the core concepts of psychological and technological literature.</li> </ul>	There is no description of the research problem leading to a clear problem statement.	Poor description of the research problem. There is no relation to the research question/aim or the literature does not match the problem. Relevance of the research is not clear.	There is a broad research problem and it is connected with relevant literature to the research question/aim. The relevance of the research is described.	There is a clear research problem and it is connected with relevant literature to the research question / aim. The relevance of the research is described. Gap in the literature is identified.	There is a clear and concise research problem which is clearly connected to the research question/aim. The relevance of the research is substantiated. Scope and boundaries of the research are well defined.	There is a clear, concise and original research problem which is clearly connected to the research question/aim. The student substantiates the scientific and societal relevance of the research. Scope and boundaries of the research are well defined.

First Assessor:

### Methods

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Research design (experiment / simulation / model) is able to answer the hypotheses and research question formulated in the introduction.</li> <li>- Knowledge on technological requirements for human-technology interactions are integrated in the (re-) design of (requirements for) products or systems.</li> </ul>	The chosen research method(s) and instrument do not correspond to the problem statement.	Most of the chosen research method(s) and instruments do not correspond well to the problem statement.	The research approach is mostly adequate (one or more suitable research methods) corresponding to the problem statement.	The research approach is adequate. The chosen research method(s) and instruments correspond to the problem statement and are based on literature.	The research approach is adequate. The chosen research method(s) and instruments correspond to the problem statement and are based on literature. The chosen research approach is justified by the student.	The research approach is adequate and thoroughly considered. Choices are clearly justified from the perspective of the problem statement and literature. The research approach stands out because of originality and/or complexity.

First Assessor:

## B. Competent In Doing Research / Designing

### Engineering and Ethics

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Experimental research is conducted according to the ethical guidelines of psychological user research.</li> <li>- Mathematical/statistical/programming designs are adequate for addressing the research question/design problem.</li> </ul>	No or very limited psychological theories and concepts are applied to real world applications. The ethical guidelines for conducting research were not sufficiently taken into account.	Very limited psychological theories and concepts are applied and/or no attempt is made to apply them to real world applications. The ethical guidelines for conducting research were not sufficiently taken into account.	Few psychological theories and concepts were correctly applied to real world applications. The ethical guidelines for conducting research were taken into account.	Psychological theories and concepts were correctly applied to real world applications, and the ethical guidelines for conducting research were taken into account.	Clear recommendations are given for stakeholders based on psychological theories and concepts, and the ethical guidelines for conducting research are discussed and developed.	Recommendations for stakeholders are well-formulated, advanced and original. They are given for stakeholders based on psychological theories and concepts, and the ethical guidelines for conducting research are discussed and developed.

First Assessor:

## SECTION A /B REMARKS

First Assessor

Partial Grade

### C. Writing Style

#### A Scientific Approach

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Report adheres to scientific standards for reporting like APA. Mathematical/statistical/programming methods and results are reported according to scientific standards.</li> <li>- Argumentation is logically sound, and arguments are based on evidence and deductive reasoning.</li> <li>- Adequate description of scientific impact on related (multidisciplinary) scientific domains.</li> <li>- Scope and level of detail is adequate for the targeted scientific communities.</li> </ul>	<p>No line of reasoning or rudimentary argumentative structure. Ideas are unconnected. Claims are repeated rather than developed.</p>	<p>There is a rudimentary argumentative structure. Claims are that are developed are only weakly supported by evidence.</p>	<p>Argumentative structure is evident and satisfactory. Claims are regularly supported by valid, reliable evidence from credible sources.</p>	<p>Argumentative structure is evident and satisfactory. Claims are usually supported by valid, reliable evidence from credible sources.</p>	<p>Argumentative structure is clearly evident. Claims are supported by reliable, valid evidence from credible sources.</p>	<p>Reader can easily follow the line of reasoning. Argumentative structure is clearly evident. Claims are supported by reliable, valid evidence from credible sources and effectively synthesized in a very convincing manner.</p>

First Assessor:

### C. Writing Style

#### Competent In Co-Operating And Communicating

	1-4	5	6	7	8	9-10
<p>- Writing is clear and to the point, and the scope and level of detail is adequate for the targeted scientific communities.</p> <p>- The main story line is clear and the report is well-structured."</p>	<p>The report badly structured. Main structure is incorrect and/or placement of material in different chapters illogical in many places. Chapters are separate entities and are not connected to each other. Level of detail varies widely (information missing, or irrelevant information is given).</p>	<p>Main structure is incorrect and/or placement of material in different chapters illogical. Level of detail varies widely (information missing, or irrelevant information is given).</p>	<p>The main structure is correct, but lower level hierarchy of sections is not always logical in places. Most sections have a clear and unique function. The connection of parts could be improved. Level of detail inappropriate in a number of places (irrelevant information is given).</p>	<p>The main structure is correct, and the lower level hierarchy of sections is logical. Most sections have a clear function. The connection of parts could be improved. Level of detail inappropriate in a number of places (irrelevant information is given).</p>	<p>Well-structured: each section has a clear function and the hierarchy of sections is correct. Most parts of the paper connect well to each other. All information occurs at the correct place. Level of detail is appropriate throughout.</p>	<p>Well-structured: each section has a clear and unique function. Hierarchy of sections is correct. Ordering of sections is logical. All parts of the paper connect well to each other. All information occurs at the correct place. Level of detail is appropriate throughout.</p>

First Assessor:



## C. Writing Style

### Competent In Co-Operating And Communicating

	1-4	5	6	7	8	9-10
<p>- The English language is of high quality without spelling and grammar mistakes. The language is formal and avoids colloquial language.</p>	<p>The report is characterized by bad readability and academic writing style. Formulations in the text are often incorrect. Vagueness and/or inexactness in wording occurs regularly inhibiting a correct interpretation of the text. Unbalanced use of text, (not useful) graphs, tables, graphs or graphics and appendices in many places.</p>	<p>The report is hard to read and the writing style is not very academic. Vagueness and/or inexactness in wording occurs regularly and wordings can still be improved much. Not all graphs, tables, appendices are useful.</p>	<p>The report is properly readable. An academic style of writing is used. Formulations in the text are predominantly clear and exact. The paper could have been written more concisely. Appropriate use of text, tables, graphs and graphics and appendices.</p>	<p>The report is easy to read and an academic style of writing is used. Formulations in the text are clear and exact. Length and the use of text, tables, graphs and graphics and appendices are appropriate.</p>	<p>The report is characterized by a very good and professional style of writing. Academic conventions with regard to style of writing, lay-out and finishing are followed meticulously. Clever use of tekst, tables, graphs and graphics and appendices, enhancing understanding and adding interest.</p>	<p>The report is characterized by a very good and professional style of writing. Academic conventions with regard to style of writing, lay-out and finishing are followed meticulously. Clever use of tekst, tables, graphs and graphics and appendices, enhancing understanding and adding interest.</p>

First Assessor:

## SECTION C REMARKS

First Assessor

Partial Grade

## D. Process / Work Attitude

### Competent In Doing Research / Designing

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Ability to develop and execute a research plan (with supervision).</li> <li>- Ability (with supervision) to identify and analyze problems typical for human-technology interaction from a technological and psychological perspective.</li> <li>- Ability to develop and execute (under supervision) a sound plan for formulating design requirements.</li> <li>- Ability (with supervision) to merge knowledge, methods and concepts of the technological and psychological domains.</li> </ul>	<p>Despite all guidance, the student is not able to organize the research. The planning is without any detail (only phasing), not feasible and/or back-up strategies are lacking. Unnecessary work is done due to bad or unchanged planning. Urgencies and importance of aspects are not recognized (despite the supervisor repeatedly addressed them).</p>	<p>Despite all guidance, the student is limited in organizing the research. The planning is with limited detail, not feasible and/or back-up strategies are lacking. Bad or unchanged planning leads to extra work. Urgencies and importance of aspects are not fully recognized.</p>	<p>Needs some guidance to organize the research project according to the planning. The planning is somewhat concrete (contains phases and milestones) and feasible. Back-up strategies are sufficiently thought out. Plan adapted with help of the supervisor. Urgencies and importance of aspects is not always recognized. The supervisor needs to address some priorities.</p>	<p>Needs little guidance to organize the research project according to the planning. The planning is concrete (contains phases and milestones) and feasible. Back-up strategies are adequate. Plan adapted with help of the supervisor. Urgencies and importance of aspects is not always recognized. The supervisor needs to address some priorities.</p>	<p>Individually organizes and manages the research project according to the (adapted) planning and shows own initiative. The planning is concrete and feasible. Updates during the project are processed clearly, back-up strategies are well thought out. Urgencies and importance of aspects are recognized and priorities are set.</p>	<p>Individually organizes and manages the research project according to the (adapted) planning and undertakes action if needed (own initiative, in good cooperation). The planning is concrete (contains milestones and specifications of all activities for each of the phases of the research) and feasible. Updates during the project are processed clearly, back-up strategies are very well thought out. Urgencies and importance of aspects are recognized, priorities are set.</p>

First Assessor:

## D. Process / Work Attitude

### Basic Intellectual Skills

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- A reflective attitude, with an ability to critically reflect (with supervision) on own thinking, decision making, and professional behavior.</li> <li>- A critical mindset and the ability to ask constructive questions regarding the basic problems in the field.</li> <li>- Ability to read and write scientific texts and evaluate argumentations.</li> <li>- Ability to think in abstract terms, including the ability to use and modify formal models of basic phenomena and processes in the domain.</li> </ul>	<p>Lack of reflection (too minimal and only backward looking) on own thinking, decision making and professional behavior. Viewpoints and interpretations are missing or not supported with arguments. Examples, when applicable, are not provided. No indication of how the student will use the insights and skills gained.</p>	<p>Limited reflection (too few and mostly backward looking) on own thinking, decision making and professional behavior. Viewpoints and interpretations are sparse or not supported with arguments. Examples, when applicable, are not provided. Poor indication of how the student will use the insights and skills gained.</p>	<p>General reflection on own thinking, decision making, and professional behavior. Viewpoints and interpretations are supported with arguments. Appropriate examples are provided, as applicable. The student has generalized statements regarding how the reflection will direct future actions or beliefs.</p>	<p>Concrete reflection on own thinking, decision making, and professional behavior. Viewpoints and interpretations are well supported with arguments. Appropriate examples are provided, as applicable. The student has concrete statements regarding how the reflection will direct future actions or beliefs.</p>	<p>In-depth reflection on own thinking, decision making, and professional behavior, but there is still room for improvement. Viewpoints and interpretations are insightful and mostly supported with arguments. Clear examples are provided, as applicable. The student provides concrete plans for further action or reflection for a specific purpose such as developing skills, improving self-understanding or refining belief systems.</p>	<p>In-depth reflection on own thinking, decision making, and professional behavior. Viewpoints and interpretations are insightful and well supported with arguments. Clear, detailed examples are provided, as applicable. The student provides concrete plans for further action or reflection for a specific purpose such as developing skills, improving self-understanding or refining belief systems.</p>

First Assessor:

## D. Process / Work Attitude

### Competent In Co-Operating And Communicating

	1-4	5	6	7	8	9-10
<ul style="list-style-type: none"> <li>- Awareness of differences in work practices between scientific disciplines.</li> <li>- Ability to work in (multidisciplinary) teams of engineers and academic peers.</li> </ul>	<p>Not punctual for meetings, being often absent or too late or, if present, not (or minimal) prepared and/or participating actively. Unprofessional communication with the supervisor and other parties involved. Does not inform about absence, progress and problems.</p>	<p>Not punctual for meetings, sometimes being absent or too late or, if present, not (or minimal) prepared and/or participating actively. Often unprofessional communication with the supervisor and other parties involved. Often does not inform about absence, progress and problems.</p>	<p>Usually punctual for meetings, sufficiently prepared (agenda and supporting documentation), and mosttimes honoring agreements. Could sometimes participate more actively during meetings/ discussions. Is respectful and clear in communication with the supervisor and other parties involved. Informs about problems.</p>	<p>Mostly punctual for meetings, adequately prepared (agenda and supporting documentation), and honoring agreements. Is respectful and clear in communication with the supervisor and other parties involved. Informs about problems.</p>	<p>Always punctual for meetings, well prepared (detailed agenda, supporting documentation, creates minutes of the meeting, follows up the agreed actions) and always honoring agreements. Informs in a professional, pro-active and constructive way. The collaboration with all of the involved was defined by its pleasant and practical nature and regularly featured substantive discussion.</p>	<p>Always punctual for meetings, very-well prepared (detailed agenda, supporting documentation, creates detailed minutes of the meeting, follows up the agreed actions) and always honoring agreements. Informs in a professional, pro-active and constructive way. The collaboration with all of the involved was defined by its pleasant and practical nature and regularly featured substantive discussion of a high degree.</p>

First Assessor:

## SECTION D REMARKS

First Assessor

Partial Grade