

Master Assignment Sustainable Energy Technology

Assessment form

Student name

Student number

Track/specialisation

Research group

Date of presentation

Title thesis

Overall grade research contents

Overall grade reporting

Aspects of assessment

Comments and Feed-back

<p>Research process <i>Assessment committee</i></p>	<p>Compliments</p> <p>Suggestions for improvement</p>
<p>Research qualities <i>Tutor & supervisor</i></p>	<p>Compliments</p> <p>Suggestions for improvement</p>
<p>Report design and lay-out <i>Assessment committee</i></p>	<p>Compliments</p> <p>Suggestions for improvement</p>
<p>Presentation and discussion <i>Assessment committee</i></p>	<p>Compliments</p> <p>Suggestions for improvement</p>

Assessment Committee (= Graduate Committee)

	Name	Signature
Chair		
Tutor		
Supervisor		
Member other group		
Other members		

How to use this form

- only the cover page has to be used,
- fill in (in advance) the text boxes concerning name, number, title, research group and date,
- for each aspect of assessment, fill in the most weakest and strongest subjects (multiple are allowed); the form is used as explanation of the overall grade and as feedback to the student,
- use the comments to derive two grades: one for research contents and one for reporting,
- sign the form: fill in the names of the committee members with their signatures,
- make a copy of the form for the student and research group archive, and
- send the filled in form to BOZ-ST/CHE.

Objectives

A detailed list of the learning objectives of the MSc.-program is defined in the SET-Program and the Exam Regulation (the "OER"). Attention is required for: the formulation of the research problem, acquirement and selection of the information, phasing of the research, selection of methods and experiments, required level of detail, accuracy and reliability of the results. An important aspect is the multidisciplinary character of the research.

Aspects of assessment

<p>Research process</p> <ul style="list-style-type: none"> • Problem formulation embedded in the context of energy technologies and systems, as well as in a socio-economic context and in a system-oriented framework • Systematic collection, analysis and processing of relevant scientific information • Research plan (sound methodology and experimental set-up) • Results (appropriate detail, accuracy, abstraction level) • Analysis and discussion of data and results • Conclusion and recommendations • Usefulness of results (e.g. degree of publishability) • Attention for the context of the results 	<p><i>During the MSc assignment the student should learn to find and apply a suitable research methodology independently on a research subject with a relative high complexity. He has the skill and the attitude to apply these methods independently in the context of more advanced ideas or applications.</i></p> <p><i>The student is able to acquire information independently also from outside the discipline and can take a critical point of view.</i></p>
<p>Research qualities</p> <ul style="list-style-type: none"> • Skills: theoretical, experimental and organisational skills • Scientific approach: systematic working, logical reasoning, use of models • Scientific attitude: creative, curious, motivated, constructive, critical self-reflection • Cooperation: interaction with supervisors and colleagues • Project work: planning and time management 	<p><i>In the master phase the student has to develop independently the required model and reasoning and chooses the right level of abstraction. The student is able to deal with uncertainty and considers the way data have been established.</i></p> <p><i>The student has to plan and organise the tasks independently.</i></p> <p><i>In the master phase there is strong emphasize on attitude. The student can integrate the consequences of scientific thinking and acting as well as the ethical aspects in scientific work.</i></p>
<p>Report design and lay-out</p> <ul style="list-style-type: none"> • Appropriate abstract • Appropriate report structure and coherence • Appropriate report lay-out • Use and quality of scientific language& writing skills • Use and quality of figures and tables • Use of citations and references • Appropriate length 	<p><i>The report should reflect a structured research approach and is written at a high degree of independency.</i></p> <p><i>The target group is colleague experts.</i></p> <p><i>The report in English should have an appropriate length and not exceed 50 pages (without appendices).</i></p>
<p>Presentation and discussion</p> <ul style="list-style-type: none"> • Clarity of explaining problems, methods, results and conclusions • Style of presenting and use of audio-video support tools • Connection to public • Discussion and response to questions 	<p><i>The presentation in English should be understandable for experts.</i></p>

Final qualifications master SET

The final qualifications are given below.

Competent in one or more scientific disciplines	<ul style="list-style-type: none"> • The graduate is an expert in at least one sub-area of sustainable energy technology and is able to maintain and expand his/her expertise in this field (for instance, by consulting the relevant literature). • The graduate has the necessary disciplinary knowledge and skills to evaluate a broad range of energy technologies and energy systems. • The graduate is able to take into account technological, societal, economic and sustainability aspects. • The graduate is able to analyse and understand the place of sustainable energy technologies in a system, as part of an electrical system (connection to the grid), of a decentralised system (such as a building) or of society as a system with opportunities for and barriers to the development of sustainable energy technologies.
Competent in doing research	<ul style="list-style-type: none"> • The graduate has the competence to acquire new scientific knowledge through research or systematic reflection. • S/he understands the potential benefits of research and is able to understand and incorporate the results of research into his/her own work.
Competent in designing	<ul style="list-style-type: none"> • The graduate is able to design systems with an optimal use of energy. • The graduate has acquired the necessary engineering skills (can work systematically and methodologically, can invent his/her own tools, theories and techniques if these are not available, can work effectively in a multidisciplinary environment, is application oriented, etc.). • The graduate makes decisions based on calculated risks. • The graduate knows that models only approximate reality and is able to develop and use them adequately whenever this is beneficial.
A scientific approach	<ul style="list-style-type: none"> • The graduate is in the habit of reflecting upon his/her own work and continuously uses relevant information to improve his/her capabilities • The graduate has the attitude to encourage his/her personal development and enhance his/her expertise both within and outside the field of expertise in the MSc programme. • He/she has the ability to reflect on the complete scope of sustainable energy technology issues.
Basic intellectual skills	<ul style="list-style-type: none"> • The graduate is competent in reasoning, reflecting and forming a judgment. These are skills which are learned or sharpened in the context of the discipline taught and are generally applicable from then on. • The graduate has a solid scientific attitude (the ability to work independently, to reflect, to analyse critically, to generate novel ideas, etc.). • The graduate's scientific attitude is not restricted to the boundaries of the sustainable energy technology domain, and he/she is able to cross them where and whenever necessary.
Competent in co-operating and communicating	<ul style="list-style-type: none"> • The graduate knows the importance of oral and written communications, particularly in English, and can make effective use of them. He/she also adheres to existing academic conventions, such as giving proper credit and referencing. • The graduate is able to operate in the context of a team, can act in different roles depending on the situation, and can take up responsibility as a member and/or as a project leader. • The graduate is skilled in properly documenting and presenting results. • He/she is able to communicate the results of scientific and design work to colleagues and to a broader public, including the underlying knowledge, choices and considerations.
Takes account of the temporal and social context	<ul style="list-style-type: none"> • The graduate is able to form an opinion and contribute to discussions about complex matters related to the introduction of sustainable energy, also based on the historical analysis of comparable interventions and societal developments. • The graduate knows that compromises are unavoidable and is able to deal with them effectively. • The graduate is aware of the disadvantages for society of certain design decisions and can communicate them to the relevant parties (stakeholders). He/she can take the purpose of the design and its context into consideration.