

**English language reading version of the Study and Examination Regulations for the
master's degree program
in Smart Energy Systems at Ansbach University of Applied Sciences
(SPO SES/HSAN-20212)**

dated 22 April 2021

Based on art. 13 para. 1 clause 2, art. 61 para. 2-3, art. 66 para. 1 of the Bavarian Higher Education Act - BayHSchG - (BayRS 2210-1-1-WFK) of 23 May 2006 (GVBl p. 245) in the currently valid version, Ansbach University of Applied Sciences decrees the following statutes:

§ 1

Purpose of the study and examination regulations

These study and examination regulations serve to fill out and supplement the General Examination Regulations of the Ansbach University of Applied Sciences-RaPo (BayRS 2210-4-1-4-1 WFK) of October 17, 2001 (GVBl p. 686) and the General Examination Regulations of the Ansbach University of Applied Sciences (APO/HSAN-20122) of August 01, 2012 in their respective valid versions.

§ 2

Study objectives and contents

- (1) The master's degree program „Smart Energy Systems“ builds on a successfully completed university degree. The aim of the study concept is to train interdisciplinary experts who can be directly deployed in various business areas and drive the development, application and optimization of decentralized energy systems or components thereof. The graduates actively shape the digitalization of the energy transition and the coupling of sectors through the use of innovative technologies and develop new business models and digital products. In order to be able to do this, a profound understanding of the energy industry is necessary, as well as the simulation and optimization of decentralized energy systems. The interaction and networking of individual components in the energy system is the key to their technically and economically successful operation. In addition to information and communication technology for data exchange, the application of artificial intelligence also plays a central role in the students' education.
- (2) The professional fields of the graduates are in the classic energy industry (municipal utilities, energy suppliers, direct marketers, renewable energies), in building technology, energyintensive industry and the mobility industry (intelligent charging infrastructure). The dynamic and innovative environment also offers opportunities for start-up companies. Graduates can be employed as managers, project leaders and experts in the technical field as well as in the areas of business field development, sales and development of innovative products.

§ 3 Study program profile

¹The English-language master's degree program "Smart Energy Systems" is a consecutive master's program. ²It has an application-oriented profile that is aligned with current developments in the educational sector of engineering. ³The program leads to the degree Master of Engineering (M.Eng.).

§ 4 Qualification requirements, admission to studies

(1) Qualification requirements for admission to the master's program are:

1. ¹A completed bachelor's degree comprising at least six academic semesters of study in a relevant course of study, or an equivalent degree, from Germany or abroad, the scope of which generally comprises 210 credit points but at least 180 credit points. ²Relevant courses of study are, for example, those in engineering, electrical engineering, mechanical engineering, physics, computer science, supply engineering or comparable. ³The examination board shall decide on the relevance and/or equivalence of the degree, taking into account art. 63 BayHSchG.
2. Proof of a specific qualification must be provided by a degree according to No. 1 with an overall examination result of at least 2.3.
3. ¹For degrees that do not have credit points, the documented time hours (workload) are converted into credit points, whereby one credit point corresponds to an hourly load of 30 time hours. ²If no time hours are verified, 30 credit points are recognized per theoretical semester of study. ³Practical semesters are recognized with a further 30 credit points insofar as these correspond to the practical study semester at the Ansbach University of Applied Sciences in terms of type and scope.
4. Degrees from other grading systems or degrees without credit points are converted according to the so-called "Bavarian formula" as follows:
$$N = 1 + 3 \times (P_{\max} - P) \div (P_{\max} - P_{\min})$$

N = grade sought (average grade)
P = total points/grade shown on the report card
P_{max} = upper benchmark (best possible score/grade)
P_{min} = lower benchmark
N = 1.0 (for P > P_{max})
5. ¹If applicants can prove that they have completed a university degree or an equivalent degree for which less than 210 credit points but at least 180 credit points were awarded, the prerequisite for passing the master's examination is proof of the missing credit points from the range of courses offered by the Ansbach University of Applied Sciences and under the examination regulations of the Ansbach University of Applied Sciences. ²The admission is made under

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The English text in this document only provides information on the contents of the corresponding German text. Only the German text is legally binding.

the resolute condition that the proof of the missing credit points is provided within one year after the commencement of studies (Art. 43 Para. 5 Sentence 3 BayHSchG). Otherwise, the enrollment expires.

6. Applicants for the master's program who do not yet have an overall examination result at the time of the application deadline for the master's program must submit an official certificate from the previous university by 30 September for the winter semester, showing the successful completion and grade point average with the credit points earned in the previous program.
7. ¹The study program is offered in English, so applicants must prove knowledge of the English language at level B2 of the Common European Framework of Reference of the Council of Europe.
²The following certificates are accepted as proof of language proficiency:
 - a.) TOEFL (Test of English as a Foreign Language) with 85 points or better.
 - b.) University Cambridge First Certificate in English (FCE) Grade C.
 - c.) TOEIC Listening/Reading 785 points; Speaking 160 points; Writing 150 points.
 - d.) A grade of at least "good" in the Technical English module or comparable English module from the previous degree.
 - e.) Applicants whose native language is English are not required from demonstrate sufficient English proficiency.
8. If German is not the applicant's native language, sufficient knowledge of the German language must be proven by passing German courses GER A2 through the following certificates:

a.) German language diploma DSD	level 1 (level GER A2/B1)
b.) Goethe-Institut	certificate of level A2
c.) Test DaF	level TDN 3/4
d.) DSH certificate	DSH-1
9. ¹Proof of above-average motivation demonstrated in a letter of motivation (minimum 200 words, maximum 500 words) in German or English. ²The examination board decides on the successful proof of above-average motivation.

(2) There is no entitlement that the master's program will be offered in case of insufficient applicants.

§ 5 Application

- (1) ¹Admission to the master's program is only possible in the winter semester. ²Application must be made in due from 1 May to 31 May.
- (2) The application is only possible online via the Ansbach University of Applied Sciences website.

§ 6

Standard period of study and structure of the program

¹The Master's degree program "Smart Energy Systems" is offered as a full-time program at the study site „Campus Feuchtwangen“ of the Ansbach University of Applied Sciences.

²The standard study period is three semesters with a total volume of 90 credit points.

§ 7

Modules and examinations

(1) ¹Per module, credit points are awarded according to the European Credit Transfer System (ECTS) for examinations passed and course-related certificates of achievement. ²One credit point corresponds to a study load of 30 hours. ³The number of credit points is specified in Appendix 1 to these study and examination regulations. ⁴The compulsory modules, the type of course, the examinations, and the credit points are specified in Appendix 1 to these regulations.

(2) Upon application, the examination board may approve that students replace the modules listed in Appendix 1 to these regulations with modules suitable for the subject from the range of courses offered by the Ansbach University of Applied Sciences, the Virtual University of Bavaria e.V. or, in the context of mobility abroad, also from international universities with which a cooperation agreement exists.

§ 8

Study plan, module manual

(1) ¹The faculty responsible must draw up a study plan and a module handbook detailing the course of study to ensure that courses are offered and provide information to students. ²The curriculum shall be adopted by the faculty council and shall be made public at the university. ³ The announcement of new regulations must be made at the latest at the beginning of the lecture period of the semester in which these regulations are to be applied for the first time.

(2) ¹The curriculum shall contain, in particular, sufficiently specific information.

1. the compulsory modules offered and the compulsory elective modules;
2. the distribution of the semester hours per module and semester;
3. the duration and type of examinations;
4. more detailed regulations on performance and participation certificates.

²In addition, the module handbook shall contain sufficiently specific information on

5. the distribution of the workload;
6. the person(s) responsible for the module;
7. the intended learning outcomes, i.e. the knowledge, skills and competencies the students should have acquired after completing the compulsory and elective modules.

- (3) There is no obligation or claim to modules being carried out if there are insufficient participants.

§ 9 Examination board

An examination board is established for the study program under the relevant legal provisions.

§ 10 Master thesis

- (1) Through the master thesis, students should demonstrate that they can systematically and scientifically work on a problem from the field of engineering and solve it in a practice-oriented manner.
- (2) Agreeing on a topic of the master thesis requires that at least 50 credit points of the Master's program have been earned.
- (3) ¹The topic of the master thesis is issued by a full-time professor of the Ansbach University of Applied Sciences. ²The examination board decides on exceptions.
- (4) The period from the issue of the topic to the submission of the master thesis shall be six months.

§ 11 Crediting/recognition of acquired competencies

¹Recognition of competencies is only granted upon application. ²The application must be made in due form using the forms of Ansbach University of Applied Sciences and must be submitted by the end of the first semester of study at the latest. ³This deadline applies exclusively to crediting/recognizing competencies acquired before enrollment.

§ 12 Overall examination grade

The weighting of the grades of the modules for the calculation of the overall examination grade results from the credit points of the modules as specified in Appendix 1.

§ 13 Academic degree

Based on the successful completion of the program, the University of Applied Sciences Ansbach awards the academic degree Master of Engineering, short form: M.Eng.

§ 14
Entry into force

- (1) These study and examination regulations come into effect on the day after they are published.
- (2) The regulations of these study and examination regulations apply for the first time to students who start their studies in the winter semester 2021/22.

Issued on the basis of the resolution of the Senate of Ansbach University of Applied Sciences of 21 April 2021 and the legal supervisory approval by the President of 22 April 2021.

Ansbach, April 22, 2021

Prof. Dr.-Ing. Sascha Müller-Feuerstein
President

These regulations were approved and announced by public posting in the university on 22 April 2021. Therefore, the day of the announcement is 22 April 2021.