Examination Regulations (Rules) of the Faculty of Engineering at Christian-Albrechts-Universität zu Kiel (Kiel University) for students of ‘Materials Science and Engineering’ leading to a Master of Science degree (M.Sc.) - 2018 of 7 March 2018


[Non-official publication]

Based on Section 52 (1) 2 of the Schleswig-Holstein Higher Education Act (HSG) in the version published on 5 February 2016 (Law and Official Gazette for the Land of Schleswig-Holstein (GVOBl. Schl.-H.), p. 39), last amended by Article 2 of the Act of 13 October 2017 (GVOBl. Schl.-H.), p. 470), after a resolution was passed by the Convention of the Faculty of Engineering of 31 January 2018 and a fast-track decision by the Dean of the Faculty of Engineering of 8 February 2018, the following Rules were issued:

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§ 1  
Scope of application

(1) These degree-specific examination regulations in conjunction with the Examination Procedure Regulations (Rules) of Christian-Albrechts-Universität zu Kiel (Kiel University) for students of Bachelor’s and Master’s Degree Programmes (PVO) apply to the teaching and assessment of the Master’s degree programme “Materials Science”.

(2) Admission to modules offered by other faculties or other institutes of the same faculty and the respective module examinations are subject to the examination regulations of the respective faculties or institutes.

§ 2  
Objective of the degree programme

Graduates of the consecutive international Master's degree programme have advanced knowledge and skills in materials science, with a focus on the field of functional materials. They know detailed and complex theories on solids in general, and functional materials in particular, and can apply these to a variety of issues in materials science. They are able to use this knowledge to plan and develop their own projects.

Graduates can independently operate, check and evaluate both contemporary standard techniques as well as special experiments and processes from current research at the institute in the fields of preparation and analysis. In the course of their studies, graduates learn to independently tackle complex scientific problems, even when under time pressure and pressure to succeed. They have acquired the ability to analyse and structure a problem in order to investigate it adequately using the appropriate techniques and methods. They learn to support this with systematic literature research, and develop new approaches for solving the problem. Graduates are able to tackle problems from related disciplines and critically evaluate their work. In inter-disciplinary discussions, they give and receive constructive criticism. Working in teams during practicals enables graduates to develop and improve their ability to achieve tolerant and efficient teamwork.

The programme’s international orientation enables graduates to develop and strengthen their personal intercultural skills. As the degree programme is conducted entirely in English, and due to its international environment, students gain a very good knowledge of the language. In numerous modules, graduates learn to prepare texts, publications and presentations in English. They can use the English language to present both themselves and a topic, and to confidently lead discussions.

With these skills and this knowledge, graduates are ideally suited to research and development in the field of functional materials. The combination of broad and in-depth, sound knowledge in the field of materials science provides them with the opportunity to work in industry as well as at research institutions. They are able to act as a project leader or team member in major international groups, in an operational or consulting capacity.

§ 3  
Structure and scope of curriculum, standard period of study

(1) The standard period of study for the Master’s degree programme is four semesters. The degree programme encompasses approximately 69 weekly 45-minute teaching units for the duration of one semester of about 12 weeks (Semesterwochenstunden - SWS) and 120 ECTS credits, including 30 ECTS credits for the Master’s thesis.

(2) At least 58 ECTS credits must be obtained in the compulsory modules, which are defined in the annex. Of these, 12 ECTS credits from the modules "Master Lab 1", "Master Lab 2" and "Master Lab 3" are not graded.

(3) At least 27 ECTS credits must be obtained from successfully completing technical compulsory elective modules. At least 20 ECTS credits of these must be obtained from the range on offer by the Materials Science and Engineering Master’s degree programme. Students will be notified of the compulsory elective modules available, along with the ECTS credits allocated to each module, in due time before the start of the semester.
(4) Up to 7 ECTS credits can be obtained from technical modules selected from the range of courses offered at Kiel University outside of the Faculty of Engineering, provided the number of ECTS credits awarded is at least two and that the modules are graded. To choose these modules, students must apply in writing to the Chairperson of the Examination Board at least four weeks before admission. If the technical nature of the module is not immediately apparent based on its title, the Examination Board will decide whether or not a module can be regarded as a technical module.

(5) At least 5 ECTS credits must be obtained from successfully completing non-technical compulsory elective modules. These non-technical modules may be selected from the entire range of courses offered at Kiel University, provided the number of ECTS credits awarded is at least two. At least one non-technical optional module must be completed with a grade awarded. The degree-specific examination regulations for the subject offering the module apply here. If the module is offered by the Centre for Key Qualifications at the CAU (ZfS), then the rules and regulations regarding the Supplementary Studies (“Profil Fachergänzung”) at this institution apply. A module is considered to be non-technical if it is not offered by the Faculty of Engineering and has no obvious technical character, or is offered by the Faculty of Engineering but has an obviously non-technical character. The Chairperson of the Examination Board shall decide in cases of doubt.

(6) The six-month Master's thesis is awarded 30 ECTS credits.

§ 4
Teaching and examination language
Lectures and examinations will be held in English.

§ 5
Academic year
(1) The degree programme in Materials Science leading to a Master of Science degree is organised according to the academic year, starting in the winter semester. As a general rule, a course will be offered once a year. Courses which, according to the curriculum are planned for an odd-numbered semester, are generally offered in the winter semester. Courses which, according to the curriculum are planned for an even-numbered semester, are generally offered in the summer semester.

(2) Registrations for both odd and even-numbered semesters are possible for the winter and summer semester. We recommend starting the degree programme in the winter semester, because otherwise it may not be possible to complete the studies as per the curriculum and qualification within the standard period of study cannot be guaranteed.

(3) Aptitude tests are only conducted in the winter semester, for the following winter and summer semester.

§ 6
Admission to the Master’s degree programme
(1) Prerequisites for admission to the Master’s degree programme are:

1. Submission of a complete aptitude assessment application for the Master's degree programme to the Materials Science Examination Board before the deadline stated on the Institute for Materials Science website. The following documents are to be included with the application in German and English:
   a) the Bachelor’s certificate or a document showing the date on which the qualification is expected to be achieved,
   b) the official grade transcript associated with the degree, including the grading system, and
c) the Module Handbook for the degree or a comparable document showing the scope in terms of time, teaching forms, contents and learning objectives of the individual modules

2. A degree with a standard period of study lasting at least three years at a German university or comparable foreign institution of higher education, which was completed with a Bachelor’s examination or equivalent final examination with at least 180 ECTS credit points.

3. A qualification assessment with at least 24 out of 48 possible points. For this, the candidate’s existing qualification is assessed based on the first university qualification for entry into a profession, according to the following criteria:

   a) Comparability of the field of study (0 to 24 points)
   
   The first university qualification for entry into a profession is compared to the contents of the Bachelor’s degree in Materials Science and Business Administration at Kiel University and points are awarded according to the number of similarities. 24 points are awarded in the event of complete comparability. Zero points are awarded if there are no similarities in terms of content.

   b) Final grade (0 to 12 points)
   
   The candidate's final grade is weighted in the range between the minimum grade required to pass and the best grade at the home university. To do this, the grading system for the first university qualification for entry into a profession and the grade awarded in accordance with this system is transferred proportionally to a scale from zero (worst possible grade) to 12 (best grade) points.

   c) Individual grades in Maths, Physics and Chemistry in the first three semesters (0 to 4 points each).
   
   In accordance with the procedure in Number 2, the respective average grades from the first three semesters from foundation modules in Maths, Physics and Chemistry are transferred to a points scale from zero (worst possible grade) to four (best grade) points.

(2) If English is not the candidate's native language or the candidate has not obtained an English university entrance qualification or English Bachelor's degree, evidence must be provided of English language skills corresponding with level B2 under the Common European Framework of Reference for Languages (CEFR) (for example, at least TOEFL® IBT: 72 points, Cambridge Proficiency, Oxford Higher Certificate, International Certificate Conference ICC Stage 3 (Technical) or IELTS: 6.0 points).

(3) Applications for the aptitude test for admission to the Master's degree programme, including the necessary proof of qualification as mentioned in (1) and (2), are to be addressed to the Materials Science Examination Board.

§ 7

Academic title

(1) The student is awarded the degree of Master of Science (M.Sc.) if he or she has obtained at least a final grade of ‘sufficient’.

(2) The degree programme and branch of study is stated as ‘in Materials Science and Engineering’ on the degree certificate.

§ 8

Examination Board

(1) The Materials Science Examination Board is responsible for the organisation of examinations in accordance with these Examination Regulations, as well as for the tasks
allocated by these Examination Regulations. The business of the Examination Board is managed by the Materials Science Examination Office.

(2) The Examination Board consists of four members from the university lecturers’ group, two members of the student body and one member from the scientific staff group.

§ 9
Requirements for admission to examinations

(1) If a module contains field trips, lab courses or practical exercises, admission to the examination assumes regular attendance at these courses.

(2) If a module includes courses that are not mentioned in (1), admission to the examination assumes regular attendance at these courses, if the individual students cannot achieve the qualification objective without regular attendance, if attendance is necessary in order to grasp the basic subject-specific methods, or if acquiring competence is dependent on the presence of the other participants, or on being present at a certain place.

This is the case for advanced seminars and projects within the scope of this degree programme. The obligation for regular attendance at an advanced seminar within the scope of this degree programme is based on the premise that, in addition to oral presentations given by students, the course also provides the opportunity for all seminar attendees to learn scientific discussion. As such, in addition to the acquisition of specialist knowledge, the learning objectives of a seminar specifically encompass the development of analytical and rhetorical skills, the use of presentation techniques and the ability to successfully work in teams. An essential learning objective within a project is the ability to successfully work in teams. This learning objective can only be achieved through regular attendance.

(3) Modules for which admission to the examination is subject to regular attendance are marked in the course of studies. For all other modules, regular attendance is not required for admission to the examinations.

The requirements for admission to the examinations for the imported subjects are contained in the degree-specific examination regulations of the department offering the course.

(4) For courses with compulsory attendance, which take place weekly over the entire lecture period, a maximum of 20% of all course dates may be missed due to illness or other good reasons in accordance with Section 52 (4) HSG. If more dates are missed, the authorised examining teacher responsible for the module has the option to make up for the parts of the course which were missed with an equivalent achievement, provided that the type of course permits this. However, students do not have the right to demand this.

(5) In addition, admission to examinations can also be made dependent on other conditions. Other examination prerequisites can also include: passed exercises, oral presentations, term papers, certificates or tests. Details will be published in a suitable manner by no later than the start of the course.

§ 10
Module examinations

(1) The Master’s examination consists of module examinations and a Master’s thesis.

(2) The teaching and examination language for each module is defined in the module handbook.

(3) Oral examinations and oral presentations are permitted as oral types of examination. Group examinations of up to three candidates are possible. The duration of a final oral examination for a module is usually at least 15 minutes and no more than 30 minutes per candidate.

(4) Written examinations, tests and term papers are permitted as written types of examination. The duration of a written examination is usually at least 60 minutes and no longer than 120 minutes.
(5) In a lab course, the examination takes the form of successfully completed individual experiments (certificates). Failed practical experiments may only be repeated if the corresponding module is on offer, but at least once within two semesters.

(6) Partial examinations may consist of term papers, practical laboratory exercises, protocols, oral presentations, written or oral tests. The type, number and weighting of the partial examinations are determined in the module description. The module coordinator may deviate from the module description in justified cases, if the student receives all necessary information at the beginning of the course.

§ 11
Master’s thesis

(1) Students who have obtained at least 74 ECTS credits from module examinations in compulsory and compulsory elective modules may be admitted to the Master’s thesis. The Examination Board may deviate from this rule in justified exceptional cases at the student’s request.

(2) Admission to the Master’s thesis must be applied for in writing at least three weeks before starting work on the thesis to the Materials Science Examination Office.

(3) The thesis will be issued and supervised by a university lecturer active in teaching and research of the specialist field of Materials Science at Kiel University’s Faculty of Engineering.

(4) When applying for admission to the Master’s thesis, the examination candidate may propose examiners and a topic for the thesis, without this giving rise to any claim for the proposal to be considered.

(5) The period for completing the Master’s thesis is six months. This deadline may only be extended by up to three months in exceptional cases. More details can be found in the PVO. The Chairperson of the Examination Board may decide on an extension upon a written request.

(6) In the case of a Master’s thesis which is prepared in cooperation with an officially recognised university, the deadline may be adapted to that of the cooperating university in justified exceptional cases. In this case, the topic, the objective and the scope of the thesis must be adjusted to suit the amended completion deadline. A corresponding application is to be included with the application as per (2).

(7) The topic of the Master’s thesis may be handed back only once and only within the first two months.

(8) The Master’s thesis will be assessed by both examiners within four weeks of submission.

(9) The Master’s thesis may be written in English or German. Amendments or supplements in other languages are not permitted.

(10) A dedication may be included in the front of the actual Master’s thesis and/or acknowledgements at the end. These must be in English or German.

(11) The Master’s thesis is to be submitted to the Materials Science Examination Office in the form of two hard copies and additionally one identical, editable copy in a form suitable for electronic data processing.
§ 12
Calculation of the overall grade

When calculating the overall grade, the module grades and the grade for the Master's thesis are weighted by ECTS credits as allocated to the modules. In doing so, the compulsory modules and the technical and non-technical compulsory elective modules are each combined into a separate section account, with the average grade for each section (calculated to one decimal place) used for the calculation of the overall grade. In order to achieve the required number of ECTS credits for the section accounts for technical and non-technical compulsory elective modules, the best modules will be taken into account in descending order, until at least the required number of ECTS credits is obtained. If the required number of ECTS credits for a compulsory elective section is exceeded with the last compulsory elective module, the full number of ECTS credits for this module will be taken into account for the compulsory elective section grade. However, the compulsory elective section is always included in the overall grade with its fixed number of ECTS credits.

\[
\text{Grade component}_{\text{compulsory modules}}(G_C) = \sum \frac{\text{Grade} \cdot \text{ECTS credits}}{46} \text{Compulsory modules}
\]

\[
\text{Grade component}_{\text{technical compulsory elective modules}}(G_{tce}) = \sum \frac{\text{Grade} \cdot \text{ECTS credits}}{\text{Total ECTS credits}} \text{Accounted technical compulsory elective modules}
\]

\[
\text{Grade component}_{\text{non-technical compulsory elective modules}}(G_{ntce}) = \sum \frac{\text{Grade} \cdot \text{ECTS credits}}{\text{Total ECTS credits}} \text{Accounted non-technical compulsory elective modules}
\]

\[
\text{Overall Grade} = \sum \frac{G_C \cdot 46}{108} + \frac{G_{tce} \cdot 27}{108} + \frac{G_{ntce} \cdot 5}{108} + \frac{\text{Grade Master's Thesis} \cdot 30}{108}
\]

§ 13
Entry into force, expiry and transitional provisions

(1) These rules enter into force on 1 October 2018.

(2) At the same time, the degree-specific Examination Regulations (Rules) of the Faculty of Engineering at Christian-Albrechts-Universität zu Kiel (Kiel University) for students of the 'Materials Science and Engineering' Master of Science degree programme of 15 May 2014 (NBl. HS MBW. Schl.-H., p. 48) cease to be in force.

(3) For students who began their studies before the 2018/19 winter semester, the provisions of the examination regulations in accordance with (2) continue to apply. Students can complete their Master's degree programme in accordance with these degree-specific examination regulations until the end of the summer semester 2022. Students who have not completed their degree programme by this time will automatically switch to the new degree-specific examination regulations.

(4) Examinations completed under the previous degree-specific examination regulations are recognised in accordance with the Recognition Rules. Module examinations which have been completed and passed in full according to the previous degree-specific examination regulations will remain valid. The Examination Board determines which modules from these examination regulations the fully completed modules are to be recognised for. If a student has completed and passed independent parts of a module examination, and the remaining parts are no longer available, the Examination Board determines which
supplementary examinations are necessary to complete the module, with regard to the learning objectives of the module and the ECTS credits to be obtained. The Examination Board decides regarding special cases of hardship for which the student is not responsible.

The University Board at Kiel University granted its approval in accordance with Section 52 (1) of the Schleswig-Holstein Higher Education Act in its letter dated 7 March 2018.

Kiel, 7 March 2018

Prof. Dr.-Ing. Reinhard Koch
Dean of the Faculty of Engineering
at Kiel University

**Article 2 of the amended Examination Regulations of 8 May 2019.**
(1) These Examination Regulations enter into force as of 1 October 2019.
(2) Module examinations which have been completed and passed in full by the date these Examination Regulations enter into force will remain valid.
(3) If a student has completed and passed independent parts of a module examination, these will be recognised. The Examination Board determines which additional examinations are necessary to complete the module, under consideration of the module’s learning targets and the purpose of the examination.
(4) If students have passed module 704 (Analytics 1 and 2), which is valid until these Statutes enter into force, the achievement will also be credited to the new module 711. If the students in module 704 have not passed the examination, they will complete the module in accordance with the version of the statutes valid until the entry into force of these statutes. If they have successfully completed Module 704, sentence 1 applies accordingly.
(5) If an independent part of an examination, for a module that has not yet been completed, has been taken and passed at the time these Examination Regulations enter into force, and this examination is not graded in accordance with the new stipulations, the grade will not be included.
(6) Upon application, the Examination Board decides regarding special cases of hardship for which the student is not responsible

**Article 2 of the amended Examination Regulations of 14 February 2020:**
These Examination Regulations enter into force on the day of their announcement and apply for the first time for the winter semester 2020/21.
### Annex

#### Schedule for the Master's degree programme

**Materials Science and Engineering**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Module code</th>
<th>Module name</th>
<th>Course type</th>
<th>SWS</th>
<th>Compulsory / compulsory elective</th>
<th>Admission requirements</th>
<th>Type of examination</th>
<th>ECTS credits</th>
<th>Compulsory attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>702</td>
<td>Solid State Physics 1</td>
<td>Lecture Practical exercise</td>
<td>2</td>
<td>1</td>
<td>Compulsory</td>
<td>none</td>
<td>-</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>711</td>
<td>Analytics 1</td>
<td>Lecture Practical exercise</td>
<td>2</td>
<td>1</td>
<td>Compulsory</td>
<td>none</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>705</td>
<td>Advanced Materials A</td>
<td>Lecture Practical exercise</td>
<td>4</td>
<td>2</td>
<td>Compulsory</td>
<td>none</td>
<td>2 Written or oral examination (zP 50:50)</td>
<td>8</td>
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<tr>
<td></td>
<td>707</td>
<td>Advanced Mathematics</td>
<td>Lecture Computer task Practical exercise</td>
<td>2</td>
<td>1</td>
<td>Compulsory</td>
<td>none</td>
<td>Written examination</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>708</td>
<td>Thermodynamics and Kinetics 1</td>
<td>Lecture Practical exercise</td>
<td>2</td>
<td>1</td>
<td>Compulsory</td>
<td>none</td>
<td>Written examination</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>709</td>
<td>Master Lab 1</td>
<td>Practical lab course</td>
<td>3</td>
<td>1</td>
<td>Compulsory</td>
<td>none</td>
<td>8 certificates</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total 1st semester** (30) 26

| 2.       | 702         | Solid State Physics 2 | Lecture Practical exercise | 2   | 1 | Compulsory | none | Written examination | (4)8 | * |
|          | 805         | Analytics 2 | Lecture Practical exercise | 2   | 1 | Compulsory | none | Written examination | 4 | * |
|          | 706         | Advanced Materials B - Electronic Mat. 2 | Per lecture Per practical exercise | 2   | 1 | Compulsory | none | 2 Written or oral examination (zP, 50:50) | 8 | * |
|          | 803         | Thermodynamics and Kinetics 2 | Lecture Practical exercise | 2   | 1 | Compulsory | none | Written examination | 4 | * |
|          | 804         | Master Lab 2 | Practical | 3   | 1 | Compulsory | none | 8 certificates | 4 | Yes |

**Non-technical Compulsory Electives**


**Total 2nd semester** (29) 33

| 3.       | 938         | Master Lab 3 | Practical lab | 3   | Compulsory | none | 8 certificates | 4 | Yes |

**Technical Compulsory Electives**


**Suitable as mobility window**

**Total 3rd semester** 31

| 4.       | 1001        | Master’s Thesis | Final thesis | 6 months | Compulsory | At least 74 ECTS | Written report | 30 |

**Total 4th semester** 30

**Overall total:** 120

j.n.M.: je nach Modul = depending on the module / zP: zusammengesetzte Prüfung = composite examination

* Attendance to these courses is not compulsory. However, course attendance is expressly recommended to enable scheduled studies in line with this curriculum.
### Technical Compulsory Electives

<table>
<thead>
<tr>
<th>Semester</th>
<th>Module code</th>
<th>Module name</th>
<th>Course type</th>
<th>SWS</th>
<th>Compulsory / compulsory elective</th>
<th>Admission requirements</th>
<th>Type of examination</th>
<th>ECTS credits</th>
<th>Compulsory attendance</th>
</tr>
</thead>
</table>
| Winter semester | 949-01a | Electron Microscopy | Lecture, Practical exercise | 3,2 | Compulsory elective | none | Oral examination | 7 | -
| | 950-01a | Micro- and Nanosystem Technology | Lecture, Practical exercise | 3,2 | Compulsory elective | none | Written examination | 7 | -
| | 951-01a | Semiconductors and Defects | Lecture, Practical exercise | 2,1 | Compulsory elective | none | Oral examination | 5 | -
| | 952-01a | Smart Materials | Lecture, Practical exercise | 2,1 | Compulsory elective | none | Written examination | 5 | -
| | 953-01a | Thin Films | Lecture, Practical exercise | 3,2 | Compulsory elective | none | Written examination | 7 | -
| | 948-01a | Cell Mechanics | Lecture, Practical exercise | 2,2 | Compulsory elective | none | Written examination | 7 | -
| 919 | Advanced Organic Materials | Advanced seminar | 2 | Compulsory elective | none | Oral presentation with written report (zP) | 3 | Yes
| 921 | Magnetic Materials: Physics and Applications | Lecture, Practical exercise | 2,1 | Compulsory elective | none | Oral examination | 5 | -
| 955-01a | Chemistry and Physics of Biomaterials | Lecture, Practical exercise, Seminar | 3,1,1 | Compulsory elective | none | Written or oral examination | 7 | -
| 931 | Selected Topics in Materials Science | Advanced seminar | 2 | Compulsory elective | none | Oral presentation with written report (zP) | 3 | Yes
| 940-01a | Linear Finite Element Methods | Lecture, Practical exercise | 2,1 | Compulsory elective | none | Oral examination | 5 | -
| 941-01a | Selected Topics in Computational Materials Science | Advanced seminar | 2 | Compulsory elective | none | Oral presentation with written report (zP) | 3 | Yes
| 945-01a | Synchrotron Techniques for Materials Characterization | Lecture, Practical exercise | 2,1 | Compulsory elective | none | Written or oral examination | 5 | -
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Type</th>
<th>Credit Points</th>
<th>Course Type</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>918</td>
<td>Advanced Metallic Materials</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral presentation with written report (zP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>elective</td>
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</tr>
<tr>
<td>954-01a</td>
<td>Statistical Methods in Materials Science</td>
<td>Lecture Practical exercise</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral examination</td>
</tr>
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<td></td>
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<td>1</td>
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</tr>
<tr>
<td>924</td>
<td>Bioinspired Materials</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral presentation with written report (zP)</td>
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<td></td>
<td></td>
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<tr>
<td>930</td>
<td>Nano Medicine</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral presentation with written report (zP)</td>
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<tr>
<td>932</td>
<td>Selected Topics in Solid State Chemistry</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral presentation with written report (zP)</td>
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<td></td>
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</tr>
<tr>
<td>933</td>
<td>Optical Materials</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Oral presentation with written report (zP)</td>
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<td></td>
<td></td>
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<tr>
<td>934</td>
<td>Advanced Topics in Organic Materials</td>
<td>Advanced seminar</td>
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<td>Compulsory</td>
<td>Written examination</td>
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<td>935</td>
<td>Advanced Topics in Metallic Materials</td>
<td>Advanced seminar</td>
<td>2</td>
<td>Compulsory</td>
<td>Written examination</td>
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<td></td>
</tr>
<tr>
<td>937</td>
<td>Engineering Aspects of Medical Technology</td>
<td>Seminar Practical exercise</td>
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<td>Compulsory</td>
<td>Written or oral examination</td>
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<td></td>
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- * Attendance to these courses is not compulsory. However, course attendance is expressly recommended to enable a successful schedule in line with this curriculum.