GUIDELINE SUPERVISION AND ASSESSMENT OF THE RESEARCH PROJECT
GUIDELINES FOR THE ASSESSMENT OF THE RESEARCH PROJECT IN THE MASTER’S PROGRAMME NANOMATERIALS SCIENCE.

As of September 2016, the following changes in the master’s programme Nanomaterials Science apply:

- assessment of the research projects among different research groups has been made uniform;
- a unique set of assessment criteria;
- a thesis split in two parts: part 1 (15 EC) and part 2 (37.5 EC)

All these points affect the way of grading. This guideline should help supervisors with the grading of the research project.

The underlying guidelines are only valid for chemistry students who started their master’s programme after September 2016.

These guidelines will be sent to the supervisors of the five involved Debye sections (PCC, ICC, OCC, CMl and SCM), published on the students’ website and included in a new version of the course guide also published at the students’ website.

1. PART 1: INITIATING THE RESEARCH PROJECT: 15 EC (SK-MRES1)

First of all: define when the student will receive his or her Go/No Go moment. This should be done when filling out the Application form comprising the study load of all the courses the student is taking; i.e. 15 EC counts for 10 weeks full time work and could not be given before the end of block 2 if the student takes two or more courses and started the research project from the beginning of the study.

1.1. LEARNING GOALS

Assessment of part 1 is based on the following learning goals:

After the end of part 1 the student should:

- know the goals of the research project;
  this includes a translation of a problem in the field of catalysis, colloid science or nanophotonics into a relevant research question and design;
- have obtained first results, have analyzed them and present them in a comprehensible way;
- be able to present a clear strategy for the second part of the research project

1.2. GRADING OF PART 1

The assessment of part 1 makes use of one of the following alphanumerical grades:

- **V/Pass** (Voldoende/Pas),
- **ONV/Fail** (Onvoldoende/Unsatisfactory) or
- **AANV/extension** (niet voldaan/not completed).
The idea of the assessment of Part 1 is primarily a Go or No Go decision. The Education and Examination provides three options.

- A “V” means that the student automatically continues with part 2.
- A “AANV” means that the supervisor explains which parts need to be improved. A new date to assess part 1 has to be redefined to evaluate the unsatisfactory parts. The supervisor will send an update of the grade to student affairs.
- A “ONV” means that the student has failed on the above mentioned learning goals and has to stop the research project. The first supervisor will report his/her findings to the programme director who will invite the student and the study counsellor. The programme board decides whether starting up a new project at another Debye group will make sense.

### 1.3. ASSESSMENT OF THE LEARNING GOALS

The student will give a presentation which contains the following elements:
- goals of the research project
- an analysis of the results
- the methodology used
- a strategy for part 2

The research group decides who will join this presentation. The second examiner will co-assess the presentation together with the supervisor who acts as the first examiner.

The intention of the presentation is to assess the work and the student’s understanding of the project and not his/her presentation skills. The presentation serves as a technique to assess the learning outcomes. However, feedback on presentation techniques can be part of the feedback session between student, supervisor, daily supervisor and second examiner (see next section) as presentation techniques are part of the general assessment at the end of part 2.

The student will receive a grade after the presentation followed by a written explanation at the assessment form. The supervisors are strongly advised to make use of the [graduate school’s rubrics](#) to justify which aspects are sufficient and/or could be improved.

In case of disagreement between the first and second examiner, the first examiner contacts the programme director to find a solution.

The supervisor will send the final alphanumerical grade to student affairs using the regular assessment form.

### 1.4. FEEDBACK

Students should learn as a novice researcher which aspects in their training need improvements or how they can use their strengths to get more out of their research project. The best way to discuss their research skills and professional attitude is to have them first reflect on their own capacities by means of a self-reflection report.

Students could make use of the same rubrics as the examiners to write the self-reflection report which should be sent to the supervisor before the feedback session.
Guidance is an important aspect of the research training and should be part of the reflection report or the discussion as well.

**Self-reflection report** (max 1 A4) written by the student which could include the following elements:  
- Were the goals of the project clear to you from the beginning?  
- Do you like the subject? What are its challenges?  
- Did you orient yourself before you accepted this project. Why/Why not?  
- Time keeping: how is the progress of your work in relation to the scheduled time in the application form. Are there any distractors?  
- Describe your own strengths and weaknesses in relation to your performance. What goes easy and what is difficult to you? You could make use of the rubrics to see what criteria are used to assess the research project and see at which level you fit in.  
- What do you think about the provided guidance: is there enough support or do you need more or anything else?  
- Are there any other elements that you’d like to bring in?

### 2. PART 2: THE RESEARCH PROJECT AND THESIS: 37,5 (SK-MRES2)

#### 2.1. LEARNING GOALS

After the end of the research project the student has learned to:

| 1) execute the research designed in part 1 under the supervision of a member of the scientific staff according to the rules of good scientific practice and ethics |
| 2) design a suitable research plan according to international scientific standards |
| 3) apply an appropriate set of experimental techniques |
| 4) handle, analyse and interpret self obtained data/results in a correct manner |
| 5) discuss the outcomes of the acquired materials and/or data and link them to scientific theories |
| 6) to evaluate his/her own learning and development process and to adjust this process if necessary; |
| 7) demonstrate a professional working attitude (able to solve tasks by him/herself); |
| 8) to work independently and take initiatives where necessary |
| 9) indicate the relevance of his/her research in the field of nanomaterials science and to reflect critically upon his/her own contribution |
| 10) work effectively in a multidisciplinary team and participate critically and constructively in the scientific debate in the research group |
| 11) to discuss, in spoken and written English, the results of research, including the underlying knowledge and background, to a target group |
2.2. GRADING OF PART 2

This part will be graded numerically and evaluates the student's work including part 1. Its criteria are threefold using a set of rubrics developed by the graduate school, applicable for each criterium:

30% research work  
30% research process  
30% report  
10% presentation

The second examiner will assess the report and the final presentation. The first examiner defines the final grade taking into account the input of the second examiner which counts for 50% for each criteria. The second examiner agrees with the final grade by signing off the assessment form.

The numerical final grade is rounded off at one decimal point, with the exception that no grade of 5.5 shall be given: 5.5 is rounded up to a 6 passing; 5 is failing.

3. THE END DATE OF THE PROJECT

The end date of the project is defined in the Application form. Please ask the student to attach a study plan to the application form to make clear when all courses and/or extra curricular activities such as student assistantships will be planned.

Inform the student at the start of the project about the “graduation/afstudeerprotocol” when a delay might happen. The ending date is the time when the grade will be submitted to student affairs. When the supervisor does not respect the ending date but the student can prove to have finished the work by handing in the final version of the thesis on time and may already have presented the work, the subboard of examiners will re-assess whether the planned final ending date has effectively been met.

Permissions of delays will only be granted by the subboard of examiners (kamer van scheikunde). Please note that the maximum final grade after extension is an 8; graduating cum laude is therefore no longer possible (EER 2016-2017, appendix) unless force majeur conditions apply that cause an exceptional delay and which will be subject for examination by the board of examiners.

4. DOWNLOADABLE DOCUMENTS

The Application Form, the assessment form, the education and examination regulations, the graduation protocol (afstudeerprotocol), Guidelines to assess the research project, rubrics:

one URL: http://students.uu.nl/en/science/nanomaterials-chemistry-and-physics/practical-information/academic-policies-and-procedures

The course guide: https://students.uu.nl/en/science/nanomaterials-science/academics/study-programme-nanomaterials-science