REGOLAMENTO DI LAUREA - LAUREA MAGISTRALE IN SUSTAINABLE CHEMISTRY AND TECHNOLOGIES FOR CIRCULAR ECONOMY (DISSERTATION RULES)

Requirements for graduation

To be eligible for the award of the Master's Degree in Sustainable Chemistry and Technologies for Circular Economy, candidates shall:

1. Satisfactorily complete all units of study prescribed for in their coursework with a minimum of 105 ECTS.
2. Submit a graduation application request via Uniweb by the deadline date published for the program. For detailed information on when and how to register for graduation, please see https://www.unipd.it/en/graduation.
3. Carry out a 15 ECTS internship (Tirocinio) within a company or external institution that has a valid internship agreement (Convenzione) with the University of Padova. Alternatively, the Master's Dissertation can also be carried out i.) as part of an Erasmus exchange program, ii) as part of other international exchange programs or iii.) in one of the 12 Departments of the University of Padova involved in the Master; in this latter case, the Dissertation shall focus exclusively on an industrial project agreed with a company. iv.) in one of the structures, centers or sectors of the University of Padova on topics related to circular economy and/or sustainability. The proposals related to points iii.) and iv.) will be carefully evaluated by the relevant Commissions (Commissione didattica and Commissione lauree e tirocini)

The internship must be initiated according to the procedures set forth by the University of Padova (https://www.unipd.it/stage). Upon completion of the internship, students will be awarded 15 ECTS. The internship shall last at least 3 months, but preferably 4-6 months,

and the student working hours shall be registered using a log-book, which must be signed by the company co-supervisor (*vide infra*). To enable graduation by 30th September of the second year, the traineeship should preferably start not before the 1st of May of the second years.

The topic of the Dissertation shall be agreed upon with the Supervisor and shall have an evident and central relation to the practical work the candidate has completed as part of their mandatory internship in a company, institution, or research body.
The Dissertation will be an original piece of research and shall focus on a topic closely related to Circular Economy and/or to its implementation in an industrial or institutional environment.
The Dissertation project must be approved by the Master Graduation Committee (Commissione Laurea e Tirocini del Master).

Academic supervisor, company co-supervisor, co-examiner

To be eligible for the award of the Master's Degree in Sustainable Chemistry and Technologies for Circular Economy, candidates will be assigned:

1. An academic supervisor, to be preferentially identified among the teachers of the Master's Degree; the supervisor should be an expert and knowledgeable in the field of the Dissertation. In case there is no availability of teachers of the Master's Degree, or the topic is extremely specific, requiring specific know-how and/or background, a further professor belonging to one of the 12 Departments involved in the Master can be contacted and appointed as supervisor by the Dissertation Board (Commissione Lauree), upon suggestion of the student.
2. A company co-supervisor, who is responsible for monitoring the work of the Master's student during their internship.

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3. A co-examiner, who is responsible for assessing the student's performance throughout their Dissertation undertaking.

Dissertation manuscript

1. The Dissertation is a piece of academic writing of approximately 50-80 pages and represents a substantial original research work. It shall be written in English and demonstrate a coherent line of research inquiry, a logical structure, description, and discussion of results.
2. The Dissertation shall be written under the guidance of a Supervisor of the University of Padova, and a co-supervisor of the company or institution in which the student has carried out their internship (see point 3).
3. An external co-examiner (*contro-relatore*) will be assigned to each student, to conduct an ongoing assessment of the Dissertation work.
4. The Dissertation shall incorporate an appropriate form of critical analysis and have, as its basis, a clearly structured conceptual framework.
5. The Dissertation is typically written in book-style, consisting of multiple chapters, outlining a coherent line of research inquiry.
6. There exists the possibility, for the company, to ask for Thesis to be marked as confidential/not to be published on Theses archive. In this case, the student, the supervisor and the Committee will be asked to sign a non disclosure agreement (NDA) either by using the templates provided by the University of Padua or by the company itself.

Dissertation defense

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1. The Examination board (*Commissione Pre-Laurea*) consists of 5 members: the President of the Board, the supervisor, the co-examiner, and two faculty members of the University of Padova. The company co-supervisor may attend the Dissertation defense, but is not entitled to assess the candidate's performance. An evaluation letter can be sent to the President of the Board.
2. The examination takes place before the official graduation date (typically 2-7 days before) and begins with a **20 minutes presentation in English by the candidate, supported by slides**. This presentation is open to the public. If necessary for the protection of intellectual property, the defense can be carried out without the presence of external audience ("a porte chiuse") and the Board Members may be asked to undersign a Non-Disclosure Agreement. The student may present their work using a PowerPoint presentation.
3. The presentation should review the major elements of the Thesis and should be primarily directed to the committee.
4. After the presentation, the President of the Examination Board calls for questions from members of the committee (max 20 minutes).
5. After the examination, the Dissertation advisor excuses the candidate and calls for discussion followed by a vote of committee members.
6. At the end of session and after the end of all Dissertation defences (typically 2-7 days after), and in a separate ceremony (Proclamazione di laurea) all candidates are summoned and appointed by Commissione di Laurea (5 professors) "Dottori magistrali in Sustainable Chemistry and Technologies for Circular Economy, Classe LM 71". The proclamation formula is read in Italian, being an Italian administrative issue.
7. In case paragraph 6 of the previous chapter applies, the thesis can be discussed behind closed doors.

Final mark

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The final mark is awarded based on a 110-point scale, with 66 being the minimum passing grade and 110 the highest possible grade. Top-performing students may be awarded the *cum laude* distinction (110/110 *e lode*) upon unanimous consent of the committee, and only when the candidate's final vote is at least 113 before rounding.

The final mark is calculated as the sum of:

- The weighted average (WA) of examination marks (including elective subjects) referred to in art. 4, paragraph 1) and art. 11, paragraph 12, weighted by their ECTS and converted to a 110-point scale by applying the following formula:

$$WA = (\sum \text{examination mark} \times \text{ECTS} / \sum \text{ECTS})\ 110/30$$

- Extra points (max. 11) awarded based on the following:
  - quality of the presentation (3 points)
  - quality and coherence of Dissertation (3 points)
  - candidate's ability to critically address the questions posed by the committee (2 points)
  - assessment of the external examiner (*contro-relatore*) (2 points)
  - timely completion of the studies; students who graduate by December of their second year will be awarded one extra point (1 extra point, above 10)

As far as the **"lode" awarded in single exams** affect the final marks in either integrated courses or the final master's degree graduation mark, the following holds:

How the "lode" of single exams is weighted when awarding the final mark in integrated courses

In the case of an integrated course consisting of more than one module, if the "lode" is awarded for one or more modules this will be counted as 32/30 in the calculation of the

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average integrated course final mark. In addition, the mark of the integrated course will be awarded considering the arithmetic mean of the different modules rounded up if the decimal value of the average is equal to or greater than 0.50, otherwise rounded down if less than 0.50.

How the "lode" of single exams is weighted when awarding the final master's degree graduation mark

Concerning the calculation of the "lode" for the graduation final mark, the following holds:

- for a number of ECTS with "lode" higher than 15: 1 extra point
- for a number of ECTS with "lode" between 9 and 15: 0.5 extra point
- for a number of ECTS with "lode" below 9: no extra point

The LODE in the final mark should be **unanimously** agreed through an unanimous vote by Graduation Board (Commissione di Laurea).

Formatting the Dissertation Thesis

A "Declaration of Originality" should be included after the cover page and before the index page. The required text is part of the cover page provided below. The student must declare that this work is original and of their own and that this work has not been fully or partially submitted previously in any other Italian of foreign university for assessment purposes.

1. **Page and Text requirements**

Dissertations should be typewritten on A4 (297 x 210 mm) paper and printed double-sided (two pages per sheet). All items must fit within the margins of the page. For the final binding, 10-15 mm margin space shall be allowed for the area of the page that falls within the spine. The number of lines per side shall be at least 25, with a minimum of 60 characters per line. Page numbering shall be displayed in the footer of each page, with center or right alignment. There should be no page number on the cover page or any blank page. Preliminary pages

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(abstract, table of contents, list of tables, graphs, illustrations, and preface) should use small Roman numerals (i, ii, iii, iv, v, etc.). Arabic numbers (1, 2, 3, 4, 5, etc.) shall be included on all pages of the text, illustrations, notes, and any other materials that follow.

2. Fonts, font sizes, and line spacing

To ensure clear and legible text, choose a Times New Roman or Arial font. Fonts shall be 12 points in size. A 1.5 line spacing should be applied, and the text should be fully justified.

3. Footnotes

Footnotes are used to provide explanatory information or comments that you don't want to include in the main body of the text. Word automatically numbers footnote marks for you, so when you add, delete, or move footnotes, they are automatically renumbered. You can have more than one footnote on a page but make them brief and use sparingly.

4. Figures and tables

Figures and tables must be placed within the text, as close to their first mention as possible. Figures and tables that span more than one page must be labeled on each page. Any second and subsequent page of the figure/table must include the "(Continued)" notation. This applies to figure captions as well as images. Each page of a figure/table must be accounted for and appropriately labeled. All figures/tables must have a unique number. They may not repeat within the Dissertation.

5. Citation guidelines

For citing references, please follow the guidelines reported here: https://economia.unipd.it/sites/economia.unipd.it/files/Guida_riferimenti_bibliografici_Anno2021_1.pdf.

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https://bibliotecadigitale.cab.unipd.it/en/search-tools/reference-management

https://mediaspace.unipd.it/media/BibliografiaA+stili+citazionali/1_27z7378o/91798751

https://www.mendeley.com/guides/apa-citation-guide/

Further references:

https://www.open.ac.uk/library/referencing-and-plagiarism/quick-guide-to-harvard-referencing-cite-them-right

https://citationsy.com/styles/apa

Approved by Consiglio di Corso di Studi

Padova, 27th September, 2023

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