

**Department of the Built Environment**

## **Graduation guide 2024-2025**

### **Master's program Architecture, Building and Planning (ABP)**

#### **Six tracks:**

Architectural Urban Design and Engineering (AUDE)

Building Physics and Services (BPS)

Structural Engineering and Design (SED)

Urban Systems & Real Estate (USRE)

Sustainable Urban Mobility Transitions (SUMT)

Smart Mobility Data Science and Analytics (SMDSA)

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## 1. In general

The graduation project is the final task before obtaining your master's degree. It amounts 30 to 45 EC (an individual study charge of 840-1260 hours, ~6-9 months full time work). Depending on the track, you can do the graduation project in a studio or individual.

The credits are obtained after writing the graduation project report and giving a presentation in front of the graduation supervision committee.

In this guide you can read more about the graduation process of all master's tracks of the Department of the Built Environment.

### a. Register yourself for your graduation project

The graduation phase starts four times a year at the beginning of each quartile. In order to kick-start your graduation project, meetings will be organized in which a step-by-step approach and guidelines will be presented. More information about these meetings will follow after you have registered for the graduation project on Osiris.

You can sign up on Osiris before the closing of the registration term of the particular starting quartile. Please check table 1 for the course code of your graduation project.

Table 1. Course code graduation project

| Graduation project | Course code |
|--------------------|-------------|
| AUDE A             | 7X45M0      |
| AUDE UD            | 7W45M0      |
| BPS                | 7S45M0      |
| SED                | 7K45M0      |
| USRE               | 7Z45M0      |
| AUDE A+UD          | 7X60M0      |
| AUDE + SED         | 7XK60M0     |
| AUDE + BPS         | 7XS60M0     |
| AUDE + USRE        | 7XZ60M0     |
| SMDSA              | 7SM30M0     |
| SUMT               | 7SU30M0     |

After registration, you can find more detailed information about your graduation project on the Canvas page.

Don't have access to Canvas yet, but already have questions about your graduation project? Please contact the contact person of your unit (appendix 4).

### b. Requirements

If you would like to start graduating, you should meet the requirements mentioned below. As per art. 4.4b of the [Regulations of the Examination Committee BE 2024-2025](#) you are required to submit your personal study plan, which must include the advice from your mentor and the Code of Conduct. **Please be aware that these documents must be submitted no later than six months after the start of your master's program.**

Should you decide to take different courses during your program, you are allowed to update your personal study plan accordingly and resubmit it to be reviewed by the Examination Committee. However, it is crucial that your definitive personal study plan is submitted before you register for your master graduation project.

Requirements for graduating:

- The Examination Committee has approved your definite [personal study plan](#) (incl. the declaration concerning the TU/e Code of Scientific Conduct).  
You need to fill out your personal study plan (incl. the declaration concerning the TU/e Code of Scientific Conduct), get it signed by your mentor (appendix 5) and then submit it to the Examination Committee via Osiris Case. You can find Osiris Case in [Osiris Student](#).
- You have at least accumulated 55 ECTS and no more than 20 ECTS remain open, not including the graduation project.

The graduation project marks the conclusion of the program.

#### **c. Learning objectives**

The essence of the learning objectives can be read in the Rubric (appendix 9B of the [Regulations of the Examination Committee](#)).

The Master Graduation Project is assessed on three aspects: Product, Process and Presentation.

- The product: the quality of the content of the project
- The process: the organization and implementation of the project, and their planning
- The presentation: the manner of presentation and reporting

#### **d. The Graduation Supervising Committee**

On commencement of the graduation project, you must initiate the establishing of a Graduation Supervising Committee consisting of at least three members authorized to conduct the Final Examination, of whom at least two are members of the academic staff of the ABP Department of the TU/e. [Check the regulations of the Examination Committee](#) (appendix 9B) for more information. As mentioned in the regulations: the chair of the Graduation Supervising Committee has to fill in the [Approval Graduation Supervising Committee](#) (check the downloads) and send it to the Examination Committee.

#### **e. Graduation topics**

You can find a list of available graduation projects on Canvas. If you have your own ideas for a project, you can contact the unit that fits best with your idea and talk with them about your options. Check Appendix 4 for an overview of contact persons per unit.

In order to get more information about possible projects it may also be helpful for you to:

- [Check the list of publications of professors](#)
- [Check graduation reports of recently graduated students](#)
- Ask fellow students who already have started
- Visit the information meeting
- Talk with PhD or EngD students

#### **f. Graduation project abroad**

It is possible to do your final graduation project abroad. You can go abroad for a 15 EC research internship, or for a project as part of your graduation program. Further information about the procedure can be found [here](#). Any questions about graduating abroad? Please contact [exchange.be@tue.nl](mailto:exchange.be@tue.nl).

**g. Internship as part of your graduation project**

An internship can be part of your graduation project. Discuss with your mentor if this is possible within your track. Note that an internship agreement should be signed by you, the company and the Department of Built Environment. [Here](#), you can find the Standard TU/e Workplace Agreement or Nuffic internship agreement (for students with a non EU/EEA nationality) and the Annex form Internship Agreement. The chair of the Graduation Committee has to sign this annex form.

For SUMT and SMDSA students, placement in a company for a period of minimum 8 weeks is mandatory.

**h. Double track regulations**

For excellent students, the Department of the Built Environment offers four ABP double track combinations in which two master tracks are combined in such a way that the requirements of both tracks are met and thus both tracks are stated on the diploma. The total study load is 150 EC. The combinations are:

- AUDE / BPS
- AUDE / SED
- AUDE / USRE
- Double Register Program Architecture + Urbanism

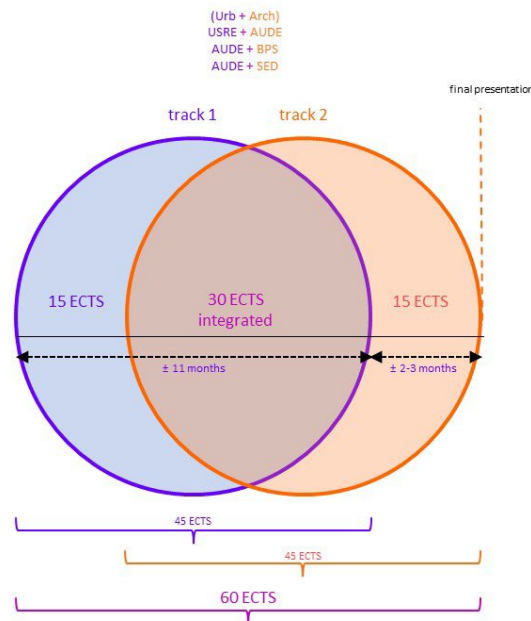


Figure 1. Double track combinations

More information about the double tracks and the criteria to follow a double track: can be found [in the education guide](#).

## 2. Requirements internal double diploma

Before the beginning of your second year in the Master, you have to put together a study plan with all courses and if applicable a joint MSc Final Project. This study plan must be approved by the mentors of both programs and the examination committees. Preferably the graduation project is a combination of both diploma programs with core aspects of both masters clearly identifiable. However, it is also possible to do two separate graduation programs, one for each diploma.

A combined graduation project is always 45, 60 or 75 EC, depending on the regular sizes of the graduation projects of the programs involved. The size of the combined graduation project is equal to the size of the largest graduation project plus 15 EC. For example, if the graduation project of Program A regularly has a size of 30 EC and the graduation project of Program B 45 EC, then the combined graduation project has a size of 60 EC. Further information about the topic can be found [here](#) and [here](#).

## 3. Graduation project and planning

### a. Graduation plan

Whenever you have prepared your graduation plan and submitted the required forms and approvals, you can start working on the actual graduation project.

In order to streamline your graduation process, it is strongly advised to determine several aspects together with your supervisors. The graduation plan is meant for you and your supervisor to know what the project is about, when the project is ready etc.

Example of topics for your graduation plan:

- Your name and student number (front page)
- Provisional Title (front page)
- Start date of the graduation project (front page)
- Team of supervisors (front page)
- Weighting of the 3 assessment P's (product, process, presentation). The minimum for each factor is equal to 15%, the maximum for each factor is equal to 70%. (frontpage)
- Short description of the project
- Research problem
- Research questions
- Academic relevance
- Societal/practical relevance
- Expected output
- Literature review
- Methodological approach
- Time plan (incl. colloquia, meeting frequency, internship (if applicable), graduation project abroad (if applicable))
- Risks that may be recognized (e.g. for graduation within a company or time delays due to ordering specimens for testing, etc.).
- Competences to be developed further during the graduation project.
- The chair of the Graduation Supervising Committee has to fill in the [Approval Graduation Supervising Committee](#) (check the downloads) and send it to the Examination Committee. Make sure to complete this form at least 2 months before your final colloquium.

Check appendix 1 and appendix 8 for more information about the graduation report.

Do you need data collection that involves human participants during your graduation project? Everybody must, before the start of a data collection that involves human participants, fill out the online form on the intranet, where the research is submitted for ethical review. Check appendix 7 for more information.

### *Guidelines for graduating with two or more students*

Overall, the graduation project is an individual project. However, it is allowed to perform the graduation project with two or more students.

The thesis should be composed in such a way that it is clear who is responsible for each part of the thesis. The members of the Graduation supervising committee see to it that this will be the case.

#### **b. Colloquia**

During the graduation project you give at least two public colloquia, which are intended to stimulate interaction between master's students, PhD students, postdocs and members of the department:

- a starting colloquium | Presentation of a detailed plan for the graduation project & possible literature study and/or:
- an in-between colloquium | Intermediate presentation with a formative assessment;
- a final colloquium | Final presentation with a summative assessment.

The final colloquium is mandatory, but the nature and the timing of the other colloquium is decided by your graduation project supervisors.

You have to plan the final colloquium, taking into consideration that all supervisors should attend this event. The presentation room (preferably in or near Vertigo) and equipment are also arranged by you. The final defense/colloquium is always public.

The defense itself consists of a 30-40 minute presentation (specified in advance by the Graduation Supervising Committee) followed by questions from the Graduation Supervising Committee and the audience. Presentation and discussion take place in English (check appendix 2). Directly afterwards the committee will have a closed meeting to discuss the grade and then the student is informed on the final result and the motivation for the results. You will also be able to see the assessment form with the rubric in your student file in Osiris a few days later.

#### **c. Checklist at the start of the graduation process**

- Register in Osiris before the start of the quartile (only if your personal study plan has been approved by the Examination Committee and you have max. 20 erts to achieve (the graduation project excluded). Note that registration closes prior to the start of the Quartile: 5 working days before the start of Q1 and 20 working days before the start of Q2, Q3 and Q4.
- Visit the information meeting.
- Find a graduation topic (check section 1e)
- Plan a meeting with your graduation committee / the chair of the Graduation Committee to make a graduation plan (check section 3a).

#### **d. Checklist at the end of your graduation project**

1. Make sure your graduation thesis meets the requirements as stated in the [PER](#).
2. Discuss with your Graduation Supervising Committee the aspects on which you are graded. The weight of the various aspects of your graduation (Process, Product and Presentation) can be found on the Canvas page of your track. Discuss the use of the assessment aspects. Note that the weights may deviate from the standard setting, if stated in the student's graduation plan.
3. Plan & announce your final colloquium
4. Submit the thesis. Every thesis must be accompanied by a public summary or public version of the thesis. The public summary or public version of the thesis will be included/published in the TU/e library after the thesis has been defended. The graduation supervisor can declare that the final thesis of the graduation is confidential for max. 2 years. In that case two versions (confidential and public) must be

handed in online at the secretariat of the Examination Committee. In case of a max. 2-year embargo a public summary may suffice. More information can be found in the [Examination Regulations](#), Appendix 9b. If the thesis is confidential; please mention the duration of the confidentiality and the date of public release.

5. Sign in for the Final Exam. In order to set up the final colloquium/defense you must register at least 10 working days before the meeting of the Examination committee on Osiris and request graduation. The examination committee is different from your Graduation Supervising Committee. The entire procedure is described in the [regulations \(PER and Regulations of the Examination Committee\)](#).
6. Sign the code of conduct for the Master's thesis, see: <https://www.tue.nl/en/our-university/about-the-university/integrity/scientific-integrity/>
7. The chair of the Graduation Supervising Committee is responsible for sharing the following documents with the Examination Committee:
  - Assessment form
  - Digital version of the thesis
  - Code of Conduct

#### **e. Program and Examination Regulations (PER)**

All formal regulations about the structure and content of ABP Master program, as well as the rules concerning testing and exams are laid out in the [Program and Examination Regulations](#) (known as PER and OER).

## **4. Finalizing the diploma**

After you have successfully defended your graduation project you must meet the following requirements before your graduation is considered in the meeting of the Examination Committee and your diploma can be finalized:

- You must register at least 10 working days before the meeting of the Examination Committee via <https://tue.osiris-student.nl/>. See the closing dates that are listed there for registering for the Final Examination. More information can be found in section 3d of this document.
- The assessed thesis (pdf version) must be submitted to the Education Office at least 10 working days before the meeting of the Examination Committee by the chair of the graduation committee. Also check section 3d of this document.
- The thesis must have been checked for fraud with the software that is commonly used on the TU/e. Appendix 3 and 6 contain more information about the fraud and plagiarism.
- All the assessments of course elements and project work (including the graduation project) must be submitted to the Education Office no later than 10 working days before the meeting of the Examination Committee.
- All requirements of the graduation project must have been met.
- The final colloquium must have been held.
- The official form for the assessment of the graduation project must be submitted by the chair of the Supervising Committee to the Education Office at least 10 working days before the meeting of the Examination Committee.

The Examination Committee checks if all requirements are met, including all requirements from all master's courses. If this is the case it pronounces that the student has passed and will receive the Master's degree. This examination shall take place without the presence of the student.



## **5. Diploma Award Session**

The diploma is presented to you at a diploma award session accompanied by a brief speech preferably given by the Chairperson of the Supervisory Committee. During the presentation, an image of the graduation project is displayed to the audience.

The Examination Committee may award the classification “cum laude” to students. More information about the conditions can be found in the [Program and Examination Regulations](#), art. 6.4. When you achieve cum laude, this is announced during the ceremony.

## **6. Termination of enrollment at TU/e**

[On this website](#) you can find information about the termination of enrollment at TU/e after finishing your graduation project.

## 7. Appendices

### Appendix 1. Guidelines graduation report

A report of the graduation project consists of a written thesis, possibly supplemented by drawings or other media.

The report of the graduation project is not a chronological account of 'what has been done' but a thesis: an integrated piece of work that complies with the demands of scientific and professional reporting. The requirement regarding the thesis can be found [in the regulations](#).

### Appendix 2. The presentation

Good presentations come in many guises. Make it clear to the listeners what you are going to do (how, what, and why). Be concise, because you do not have much time. Concentrate on what is important and relevant for your project. Support important decisions with compelling reasons and underpin assumptions with proper evidence. The objective of a presentation is specifically to position and sell your subject, to provoke reactions, and to take full advantage of the opportunity by presenting your project well. You decide for yourself how to organise and present your material. However, they all have beginning, middles and ends; it tends to be a good idea to know how the parts relate to each other and to the whole.

The presentation should address the what, how, and why.

- The context or problem area: what is the problem, what are you going to research or investigate?
- The subject or theme: what do you intend to do?
- Societal and scientific relevance: why are you going to do it?
- Plan of approach/methodology and timetable: how are you going to do it? What do you want to do and what do you not want to do, what are your examples (if any), references, and precedents? How have you selected them and for what reasons?
- Address specific points requiring attention and discuss the preconditions of the project.
- Describe the project by allowing words and images to interact effectively. Support your decisions with reasons and your assumptions with evidence.
- For the final presentation: add your final results, conclusions and recommendations.

### **Appendix 3. Rules for citations and references**

The use of another person's work is permitted as long as the sources are reported clearly. If a student does not report sources consulted, he is guilty of plagiarism. More information about fraud and plagiarism can be found in the [Examination Regulations](#) (Art. 3.1)). Please note: this also applies to text generated by artificial intelligence

#### **Making use of a spoken text**

The quoted text can be presented in italics between quotation marks, giving the name of the person cited and, if known, the year in which the statement concerned was made.

#### **Making use of a written text**

In this case the text is quoted with the following information (depending on the source):

- Surname and initials of the author(s), title of the book (in italics), year of publication (in brackets), publisher (name and place), and the page numbers concerned (pp),
- Surname and initials of the author(s), title of the article, name of the journal (in italics), volume and number, and the page numbers concerned (pp),
- Surname and initials of the author(s), title of the report, year (in brackets), publisher (name and place), and the page numbers concerned (pp),
- Surname and initials of the author(s), title of the article, name of the newspaper, date, and page number,
- Title of the brochure / document, year of publication, name of publisher (manufacturer, supplier, organization etc.),
- Internet website: http address and date, author(s), initial(s), name of the site, name of the company or institution (if known)

The following two methods are the most common for referring to sources in the body of the thesis.

- [Vancouver style](#): numbers between square brackets that refer to the literature list at the end of the thesis.
- [APA style](#): Name(s) of author (s) and year between curved brackets (name, year) that refer to the literature list at the end of the thesis.

#### **Making use of drawings and photographs**

In this case the name of the artist or photographer must be stated immediately below the drawing or photograph being reproduced. On publication of the thesis, royalties must be paid to these third parties. This also applies for images copied from the internet if they are copyrighted.

*These rules are taken from: Herwijnen, F. van, (2003) Plagiaat= fraude, Bouwpers, number 10, volume 19, pp 9-10*

#### **Unity of graduation / Self quotation**

- The content of a thesis should relate to the final graduation project itself. The thesis should make up a unity as usual in scientific and professional reports. Results of separate exercises, earlier written articles and reports, results of subjects and reports of excursion should not be part of the thesis.
- In extension to this self-quotation should be avoided, unless self-quotation is absolutely necessary for the graduation itself. Common references should be used.

### **Making use of logos and names of commercial institutes or companies**

- Making use of the TU/e logo is permitted. It should be clear that it concerns individual graduation work of a student. The TU/e logo should be used in a proper way in accordance with the house style. The design of the cover of the thesis is restricted to the house style regulation of the TU/e. The logo has to meet the graphic requirements such as sharpness and accurate colors. If the author does not meet these requirements correctly this can lead to a claim of the TU/e. The TU/e logo and guidelines how to use it can be found via [this page](#). For writing your thesis [3 templates are available in TU/e house style](#).
- It is not allowed to take up advertising in the thesis unless advertising is a functional subject of research within the framework of the graduation project or otherwise used for illustration purposes. Copyright and quoting rules are also applicable in such cases.

#### Appendix 4. Contact person per unit

| Graduation project | Contact person   |
|--------------------|--|
| AUDE A             | <a href="#">Juliette Bekkering</a>   |
| AUDE UD            | <a href="#">Juliette Bekkering</a> or <a href="#">Olivia Guerra Santin</a> |
| BPS                | <a href="#">Katrin Schollbach</a>  |
| SED                | <a href="#">Sandra Simaria de Oliveira Lucas</a>                           |
| USRE               | <a href="#">Aloys Borgers</a>  |
| AUDE A+UD          | <a href="#">Juliette Bekkering</a> or <a href="#">Olivia Guerra Santin</a> |
| SUMT and SMDSA     | <a href="#">Soora Rasouli</a>  |

#### Appendix 5. Mentor

| Track        | Mentor  |
|--------------|---|
| AUDE         | The tutor of your first master project (M1 or M2) is also your mentor. For exceptions to this rule (for instance because you are not yet participating in a master project) please contact one of the AUDE education officers: <a href="#">Olivia Guerra Santin</a> or <a href="#">Juliette Bekkering</a> . |
| BPS          | <a href="#">Katrin Schollbach</a>   |
| SED          | <a href="#">Floor van Schie</a>   |
| USRE         | <a href="#">Feixiong Liao</a>   |
| SUMT, SUMDSA | <a href="#">Soora Rasouli</a>   |

#### Appendix 6. Plagiarism Ouriginal

The thesis must have been checked for fraud with the software Ouriginal in Canvas. The procedure is as follows:

- Each program/track has a Canvas page for its graduation project designed and maintained by the responsible teacher of the graduation course;
- On this Canvas page an assignment is created with the 'Ouriginal' check 'on';
- You need to upload your final graduation report in Canvas to activate 'Ouriginal';
- The supervisors will receive the result of the plagiarism software in terms of a percentage of plagiarism and need to judge, knowing the process the student went through and having read her/his graduation report, if the student is to be suspected of committing plagiarism, or not;
- In case of suspicion of plagiarism, supervisors need to report this to the Examination Committee.

#### Appendix 7. Ethics review

All proposals for TU/e research with human participants or data from individuals will have to be ethically reviewed. The TU/e has appointed the Ethical Review Board (ERB) for this purpose. A portal is available on the intranet [intranet.tue.nl/ethics](http://intranet.tue.nl/ethics) for all information regarding the procedure. If you have any questions, please feel free to contact [rdmsupport@tue.nl](mailto:rdmsupport@tue.nl).

Everybody must, before the start of a data collection that involves human participants, fill out the online form on the intranet, where the research is submitted for ethical review. Approval of the ethical board is required before the data collection can start. This procedure applies to graduation research projects as well. More information and relevant forms can be found on the intranet portal: [intranet.tue.nl/ethics](http://intranet.tue.nl/ethics).

### **Appendix 8. Tips to make your graduation project a success**

- Be proactive, take initiative, don't be passive regarding your supervisors, try to anticipate where they are taking the project.
- Remember that it is *your* project, you are required to listen to what your supervisors say, but you must yourself make up your mind what to do with that information.
- Be clear in what you want to achieve and if necessary what you do not want to do. Give reasons to underpin your decisions.
- Try to find out in what capacity you would like to be employed after your graduation and why (architectural office, consultancy, supply industry, government, research institute)? Try to make sure your graduation project reflects at least some of your ambitions.
- Make a list of definitions of the terms used in your research
- Keep careful record of references and sources and everything you do in the lab. You will not remember all the details when you have to write your final report
- Do not forget to back up your data!
- Make good use of the library and consult books, journals, and other relevant sources such as the internet.
- Prepare a survey of relevant literature, and make a choice of items for further study. If you are not able to decide, ask your supervisors for advice. Make sure to properly document your sources immediately.
- Most important: Have fun. Your graduation should be the most exhilarating time of your study and should be a period you look back on with a good feeling.