

Application Guide

Dear Applicant,

Thank you for your interest in the Master's Program in Computational Science and Engineering (CSE) at the Technical University of Munich (TUM).

CSE focuses on developing problem-solving methodologies and robust tools for numerical simulation in a comprehensive manner. To understand phenomena and processes from science and engineering, we no longer need to depend only on theory and experiment, but can also use computation. Numerical simulations supplement experiments and can even allow the examination of systems and problems that would be too time-consuming, expensive, or dangerous (if possible at all) to study by experiment alone.

While the following fields are related to CSE, be aware that CSE is **not** Computer Science (nor Computer Engineering); TUM offers a corresponding study program called *Informatiks*. Also be aware that CSE is **not** a Big Data or Machine Learning course; TUM also offers study programs *Data Engineering and Analytics*, and *Mathematics in Data Science* in this case. Finally, CSE is **not** a program focused on Robotics, **nor** Quantum Computing; in such cases, see *Robotics, Cognition, Intelligence, Mechatronics and Robotics* and *Quantum Science & Technology*.

If you need individual advice about the whole bandwidth of study programs offered at TUM, please contact our student advising team ¹.

The following application guidelines are intended to help you prepare a competitive application for CSE. Please read them carefully.

Documents of application

To apply for admission to CSE you first have to create an applicants account². Note that the whole application process at TUM is handled digitally. You do not have to send any documents to TUM by mail. Note that, if you have to apply via Uni-Assist, different rules regarding document submission may apply³.

Here is additional information about the required documents:

- *Curriculum vitae (CV)*:
The CV should list your previous activities (education and professional). If you have done CSE-relevant internships or projects you can also list them. Please

don't forget to specify the CSE related details of your stations.

- *Letter of motivation/personal statement*
The letter of motivation is one of the most important documents of your application. It can give us an impression of you as a person, and, above all, it's supposed to tell us why you want to take part in CSE (and why the program fits in with your previous academic career vs. other options).
Please do us a favour: Do not rewrite your CV, don't praise the TUM / Munich / Germany at great length and, above all, keep it short and concise. To help you structure the letter, we have provided a template which you should use. Be aware that letters not following this format can result in lower scores.
- *Degree certificate or Diploma*:
It should include your (final) average grade and an explanation of the grading system. If possible, attach your overall rank in class. The degree certificate is only necessary if you have already completed your studies.
- *Complete university transcript of records*:
Also called semester mark sheets. They should list all your subjects and the corresponding grades.
- *Analysis of the Curriculum*:
In order to assess your academic qualification (part of the admission procedure), we ask you to hand in the Analysis of the Curriculum. Please list relevant courses in mathematics, programming, fundamentals in science/engineering and course-specific courses in the respective sections.

A further admission criterion is your GPA. To be able to compare students with unfinished studies and already graduated students, please enter the best grades you obtained in your bachelor degree. The sum of the credits of these courses has to be at least 2/3 of the credits of your bachelor degree or, if you studied in Europe, at least 120 ECTS (no matter if your bachelor degree comprised more than 180 ECTS). Please translate your grades to a numerical grading scheme, if necessary⁴.

Use the excel sheet provided on our website⁵. Follow the instructions given in the Excel sheet carefully.

¹<https://www.tum.de/en/studies/support-and-advice/support-during-studies/studentadvising/>

²<https://www.tum.de/en/studies/application-and-acceptance/online-application/>

³<https://www.tum.de/en/studies/application/uni-assist/>

⁴Grade conversion formula: <https://www.tum.de/en/studies/application/grade-conversion-formula-for-grades-earned-outside-germany/>

⁵https://www.cit.tum.de/fileadmin/w00byx/cit/_my_direct_uploads/Curricularanalyse_-_CSE_2023_06.xlsx

Note that, as mentioned above, you additionally have to submit your transcript containing all your grades. Hint: If somewhere in the excel sheet *#WERT!* or *#VALUE!* appears, then you filled a field incorrectly. Please check all filled fields are numeric, and whether the decimal separator is applied correctly (i.e. “.” vs. “,”).

- *English proficiency test:*

You have to proof your English proficiency. This is possible either by providing a language certificate or if the language of instruction during (one of) your former studies was English or your thesis was written in English. Please read carefully the information regarding language certification on our website⁶.

Please send your TOEFL results electronically via ETS. Use the institution code **7806** and, if available, the department code **99**.

- *German proficiency:*

This Master's program can be completed in English and knowledge of the German language is not relevant for your admission. Nevertheless you are living in Germany at least for the time of your studies. Therefore we recommend to acquire at least a basic level of German language knowledge in your study time, as this will positively impact your experience.

- *Two letters of recommendation (optional):*

Please submit up to two letters. Ideal persons to ask for a recommendation letter are faculty members who know you well and can judge your skills in the field of CSE.

Please ask your recommenders to use the form from our website⁷.

Note that we do not accept recommendation letters via eMail or mail. Please use TUMOnline for submission.

- *uni-assist:*

If you did not obtain your Bachelor's degree in a German university, you have to submit a preliminary record evaluation from uni-assist. As this can take up a long time, possibly more than 4 weeks, we highly recommend to send the necessary documents to uni-assist very early on. For more information refer to our website⁸.

- *Special regulations for certain countries⁹:*

- Applicants with a degree from **Bangladesh, China, India, Iran, or Pakistan** have to submit a GRE General Test - the Subject Test does not suffice. The required score from September 2022 on is **164 in Quantitative reasoning** and **4.0 in Analytical writing**. Verbal reasoning is not going to be considered. Please send your GRE results electronically via ETS. Use the institu-

tion code **7806** and, if applicable, the department code **5199**.

- As an alternative to the GRE, **Indian** applicants may submit a recent GATE result of papers in either **engineering** (codes XE, CE, CH, CS, EC, EE, GG, IN, ME, MN, MT, PI), **mathematics and natural sciences** (codes MA, CY, PH), or **life sciences** (code XL, sections I, J, K, and M, only).
- Applicants with a degree from **China** have to submit an APS certificate from the German Embassy in Beijing.

If your documents are not in English or German, officially authenticated translations have to be added. Note that the authentication must be performed in English or German language and must be properly notarized¹⁰.

Deadline for application:

The application deadline for **all** applicants is **May 31st**. All required documents must be **submitted via TUMOnline** by this date. However, we recommend (especially) international applicants to submit before **March 31st** as, depending on your country of origin and current world events, visa and further bureaucratic procedures might take significant amounts of time, potentially preventing a timely start of your studies.

We process applications on a first-come, first-served basis, so we recommend international applicants to submit their documents as early as possible in order to have enough time to deal with time-consuming bureaucratic issues (particularly the **visa**).

All applications are considered equally, independently of the point in time they reach us. Early applications are not treated differently since we do not have a maximum number of study places in CSE.

If your final degree certificate and final year transcripts are not yet available at the time of applying, please submit the most recent transcript of records containing all your available individual results. If you are admitted to CSE you will have to hand in your degree certificate and the missing transcripts by mid November, at latest.

Submitting the application:

Please submit your application digitally via TUMOnline. Applications or documents submitted by mail, fax or eMail will not be accepted. Please refrain from contacting us via eMail or other regarding your application status. You can always check your **application status** using TUMOnline.

On TUMonline you can also check whether your documents are complete, and if they are incomplete or invalid check the

⁶<https://www.tum.de/en/studies/application/application-info-portal/admission-requirements/language-certificates>

⁷https://www.cit.tum.de/fileadmin/w00byx/cit/_my_direct_uploads/recommendation_letter.pdf

⁸<https://www.tum.de/en/studies/application-and-acceptance/uni-assist/>

⁹<https://www.tum.de/en/studies/application-and-acceptance/special-conditions-for-certain-countries>

¹⁰<https://www.tum.de/en/studies/application/notarization/>

details. The admission board and the CSE coordinators cannot answer any questions regarding **incomplete documents**. Please contact the Student Service Center if you have questions about incomplete documents; only after checking TUMonline.

Only complete and correct applications are checked by the admission board. This means: as long as your application is incomplete it will **not be checked** by the Admission Board.

Admission:

The decision about admission for CSE will be made by the admission board on the basis of your application documents. In some cases, an additional telephone (or Zoom/BBB) interview is scheduled.

You will be notified as soon as your admission has been decided. Upon admission you will be able to download an official letter from TUMonline and you will be asked to accept the study place via TUMonline. Please do so in time (there will be a deadline for acceptance)! The admission letter will contain further details on the enrollment process.

Financial Aspects & Accommodation:

Have a look at our website for further information on financial aspects and scholarships¹¹.

Finding an accommodation in Munich is unfortunately not easy and you should organize this in time. For information on accommodation in and around Munich refer to our website¹².

Start of the program:

The academic year at TUM usually starts in mid October. Make sure that you arrive in Munich in time.

If you are admitted you will receive an eMail with further information and useful links in time before the start of your studies. Note that you will have to hand in specific documents as certified copies in order to be enrolled¹³. You will receive information on the needed documents after successful admission.

Further information:

If you have any questions regarding the admission procedure for the CSE program, please consult our website¹⁴.

¹¹<https://www.tum.de/en/studies/fees>

¹²<https://www.tum.de/en/university-life/accommodations/>

¹³<https://www.tum.de/en/studies/during-your-studies/beginning-a-degree-program/getting-organized-before-your-studies-begin/>

¹⁴<https://www.cit.tum.de/cit/studium/studiengaenge/master-computational-science-engineering/>