



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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# Master's degree



## MSc Theoretical and Mathematical Physics

Ludwig-Maximilians-Universität München • München

### Overview

Degree	Master of Science in Theoretical and Mathematical Physics
In cooperation with	Department of Physics of the Technische Universität München (TUM)
Teaching language	<ul style="list-style-type: none"><li>English</li></ul>
Languages	Courses are held in English.
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	Applications must be submitted by 15 June for the upcoming winter semester. More information can be found <a href="#">here</a> .
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	Yes
Description/content	<p>Physics and mathematics are cornerstones of our knowledge-based society due to the structural power of abstraction, mathematical algorithms, and the far-reaching consequences of logical induction. This elite programme offers both an in-depth and broad-based education in theoretical and mathematical physics covering:</p> <ul style="list-style-type: none"><li>advanced and applied quantum mechanics</li><li>quantum field theory</li><li>gauge theories</li><li>cosmology</li><li>general relativity</li><li>differential geometry</li><li>string theory</li><li>statistical physics</li><li>stochastics</li></ul> <p>Special focuses are on transdisciplinarity, i.e. the transfer of knowledge from one discipline to a related one and the interdisciplinarity between modern theoretical physics and mathematics. The basic goal here is to demonstrate that physics and mathematics share many common questions.</p>

Besides annual courses, local lecturers with worldwide reputation are joined by visiting experts in presenting special courses. The programme exposes students to cutting-edge research by integrating them into one of the more than thirty participating research groups.

Ludwig-Maximilians-Universität (LMU) and Technische Universität München (TUM) are [worldwide highly ranked universities](#), two of the leading universities in Germany and part of the German Universities Excellence Initiative. Several Nobel laureates, Leibniz prize winners, ERC grant holders and Humboldt professorships have been affiliated with LMU and TUM Faculties of Physics and Mathematics. Students of the TMP Master's programme get the possibility to learn and work closely with worldwide recognised researchers with a strong international network and do state of the art research.

LMU and TUM form an integral part of the exceptionally broad-based network of research institutions, universities, foundations, and corporations based in Munich. The city's other research institutions, the Max Planck Society and the Fraunhofer Society, as well as global enterprises and a vibrant start-up scene are closely intertwined with LMU and TUM.

All this builds the framework for an outstanding education in physics and mathematics and prepares the graduates of the Theoretical and Mathematical Physics (TMP) Elite Master's programme at LMU and TUM for an international career.

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## Course Details

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Course organisation	The <a href="#">curriculum for the MSc Theoretical and Mathematical Physics</a> comprises four semesters. In the first three semesters, students choose classes from a wide range of areas in theoretical physics and mathematics. The half-year Master's project takes place in the fourth semester.
International elements	<ul style="list-style-type: none"><li>• Integrated study abroad unit(s)</li></ul>
Integrated study abroad unit(s)	If desired, a part of the curriculum can be studied at one of the LMU's or TUM's numerous partner universities abroad. Further information on this can be found <a href="#">here</a> .
Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

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## Costs / Funding

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Tuition fees per semester in EUR	None
Semester contribution	Currently, about 150 EUR per semester (Fee can change; please check <a href="#">here</a> .)
Funding opportunities within the university	Yes
Description of the above-	Funding opportunities can be found <a href="#">here</a> .

mentioned funding opportunities within the university

## Requirements / Registration

### Academic admission requirements

The application for the MSc Theoretical and Mathematical Physics requires a first professional university degree or an equivalent degree from Germany or abroad in one of the subject areas physics or mathematics.

Further information on the application process can be found [here](#).

### Language requirements

If available: TOEFL, IELTS or comparable test

### Application deadline

Applications must be submitted by 15 June for the upcoming winter semester.

More information can be found [here](#).

### Submit application to

All applicants must apply to the programme to take part in the aptitude procedure.

Further information can be found [here](#).

## Services

### Accommodation

A helpful website for searching accommodation is provided by the [Munich Student Union](#).

### Career advisory service

LMU students, doctoral candidates and graduates can make use of the [LMU Career Network](#), which gives them the opportunity to get a head start on their careers.

## Contact

### Ludwig-Maximilians-Universität München

Fakultät für Physik

Geschwister-Scholl-Platz 1  
80539 München

Tel. +49 8921802487

✉ [studium@physik.uni-muenchen.de](mailto:studium@physik.uni-muenchen.de)

🌐 Course website: <https://www.theorie.physik.uni-muenchen.de/TMP/courses/index.html>

📘 <https://de-de.facebook.com/lmu.muenchen/>

📷 <https://www.instagram.com/physik.lmu/>

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# International Programmes in Germany - Database

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[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

DAAD - Deutscher Akademischer Austauschdienst e.V.  
German Academic Exchange Service  
Section K23 – Information on Studying in Germany  
Kennedyallee 50  
D-53175 Bonn  
[www.daad.de](http://www.daad.de)

## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://www.gate-germany.de)

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