

How to apply for being admitted to the Master Thesis (Mar 2022)

The Master Thesis concludes your Degree program. According to the current study and exam regulations, you can be admitted once you have passed all modules from the MIC curriculum. A maximum of 5 credits may be open.

Furthermore, if applicable, you must have passed all additional modules that have been agreed with your academic coordinator. The corresponding form for the agreement that you obtained by the registrar's office when you enrolled in the program must be filled by your coordinator, signed by you and returned to the coordinator.

Application for Admission

To be admitted you need to apply before. According to the framework study and exam regulations §28 (3), the application must be submitted to the study administration in the semester preceding the semester when you intend to start your Thesis. The application forms are expected to be submitted by email (fb7-dekanat@bht-berlin.de) or on paper to the department VII dean's office ("Dekanat") (Gauß building, room B136) until the end of the lecture period of this semester. The dean's office will forward your application to the central study administration. Please note that the lecture period is not the same as the semester. The lecture period typically ends mid of July (summer) and beginning of February (winter).

Example:

You intend to start your Master Thesis in the summer semester. Your application is expected to be submitted by the end of the lecture period of the preceding winter semester (typically, beginning of February).

You intend to start your Master Thesis in the winter semester. Your application is expected to be submitted by the end of the lecture period of the preceding summer semester (typically, mid of July).

You are yourself responsible to deliver the application forms in time, so please inform yourself about end of the lecture period (see <https://www.beuth-hochschule.de/termine>).

The application forms comprise the following documents:

- "Zulassung zur Abschlussprüfung" (*Admission to Final Examination*)
- "Zulassung zur Abschlussprüfung – Anlage 1" (*Admission to Final Examination, Attach. 1*)
- "Zulassung zur Abschlussprüfung – Anlage 2" (*Admission to Final Examination, Attach. 2*)




These documents (and others relating to your Thesis) can be found on the department VII web page, <https://www.beuth-hochschule.de/989>, tab "Dokumente".

FB VII Aktuelles (FB VII) Personen Studiengänge Labore Service **Dokumente**

Home > Hochschule > Organisation > Fachbereiche > Fachbereich VII > Dokumente

Dokumente

Abschluss

-  Antrag auf Zulassung zur Abschlussprüfung
Dieser Antrag ist zusammen mit den Anlagen 1 und 2 einzureichen.
-  Anlage 1 – zum Antrag auf Zulassung zur Abschlussprüfung
Belegte Units im laufenden/folgenden Semester
-  Anlage 2 – zum Antrag auf Zulassung zur Abschlussprüfung
Vorschlag Thema und Betreuung nach § 29 RSPO 2016

Note: Attachment 2 includes a proposed subject and a suggested supervisor for your Thesis. This document can be submitted later by the end of the semester (i.e. 31 March when applying for the summer semester, and 30 September when applying for the winter semester) to the department's dean's office ("Dekanat") (Gauß building, room B136), once you have agreed on a topic with your supervisor. The other two documents are expected to be submitted earlier by the end of the lecture time, see above!

With Attachment 2, please add a short problem definition / exposé. A template for the problem definition can be found at the end of this document but your supervisor may use a different one instead.

The content of the forms is in German, a translation is added to this document.

You will be informed officially in an admission letter about your admission once the application is processed and you are admitted. The information includes the definition of the five months working period. The admission process requires formal checking regarding the conditions on which you may be admitted. Usually, you will be admitted within April for Summer and October for Winter. Please refrain from inquiring the application status before end of these months. In consultation with your supervisor, you can start your work already before being formally admitted.

Once you have applied for the Thesis, this application remains valid until you are admitted. This also includes cases, when you do not start working on your Thesis, e.g. if you submit too late your attachment 2, you get ill, or you can't be admitted because the conditions are not fulfilled. Don't submit a second application!

3 March 2022, Marcus Purat

(Academic Coordinator, Master Information and Communications Eng.)

Document "Zulassung zur Abschlussprüfung":



Antrag auf Zulassung zur Abschlussprüfung
Grundlage für die Zulassung § 28 RSPO 2016

Dieser Antrag ist - zusammen mit den Anlagen 1 und 2 zu diesem Antrag - beim Studien-Info-Service einzureichen. An einigen Fachbereichen ist die Abgabe auch im Dekanat möglich.

Bitte vollständig am PC oder deutlich lesbar in **Druckbuchstaben** ausfüllen

Admission to final Exam in Zulassung zur Abschlussprüfung im Sommersemester Wintersemester

Cross resp. semester and fill in year

Persönliche Daten Matrikel-Nummer Fachbereich Department

Family Name Name

Given Name Vorname

Program Studiengang Bachelor Master Cross: Master

Your email E-Mail

Phone Telefon

Address Adresse

Bitte Zutreffendes ankreuzen See explanation on next page

- Die Praxisphase ist erfolgreich abgeschlossen. Die Anerkennung ist beantragt bzw. erfolgt.
- Die Praxisphase wird abgeleistet vom
- Sämtliche Module des Bachelor- oder Masterstudiums sind erfolgreich abgeschlossen.
- Der erfolgreiche Abschluss der in Anlage 1 angeführten Module steht noch aus.
- Die Anlage 2 (mein Vorschlag zum Thema meiner Abschlussarbeit und des/der Betreuers*in) ist beigefügt.
- Einen Vorschlag für das Thema und den/die Betreuer*in in meiner Abschlussarbeit mache ich nicht. (Vergabe durch den Prüfungsausschuss gewünscht).

Date / Your signature
Datum, Unterschrift Student*in

Vermerke der Studienverwaltung (Diese Felder bitte nicht ausfüllen.)

Fehlende Unterlagen:

- Anlage 1
- Anlage 2 Filled out by Admin
- Unterschrift

Datum, Unterschrift

Questions relating to internship:

- Die Praxisphase ist erfolgreich abgeschlossen. Die Anerkennung ist beantragt bzw. erfolgt.
- Die Praxisphase wird abgeleistet vom

These questions relate to an internship which is not part of your studies. You can leave open these questions.

Questions relating to completion of modules:

- Sämtliche Module des Bachelor- oder Masterstudiums sind erfolgreich abgeschlossen.
- Der erfolgreiche Abschluss der in Anlage 1 angeführten Module steht noch aus.

These questions relate to the completion of modules.

Cross the first box if you successfully passed all modules of your program already. In this case you don't have to hand in Attachment 1.

Cross the second box if some modules are not yet successfully passed and you intend to pass them in the current or next semester. You must fill out Attachment 1 and list all the modules in this case.

Questions relating to subject and supervisor for your Thesis:

- Die Anlage 2 (mein Vorschlag zum Thema meiner Abschlussarbeit und des/der Betreuers*in) ist beigefügt.
- Einen Vorschlag für das Thema und den/die Betreuer*in meiner Abschlussarbeit mache ich nicht.
(Vergabe durch den Prüfungsausschuss gewünscht).

These questions relate to the subject of your Thesis and the supervisor.

Cross the first box if you submit Attachment 2 with a suggested subject and supervisor for your Thesis, or if you hand in later Attachment 2. Please note that you are expected to submit Attachment 2 at the end of the semester at latest (31 March for applying for the summer semester, or 30 September or applying for the winter semester).

Cross the second box, if you do not intend to hand in Attachment 2 i.e. do not intend to make any suggestion for the subject and/or supervisor. The Exam board of your program will assign a subject and supervisor in this case.

Document “Zulassung zur Abschlussprüfung – Anlage 1”: (Attachment 1)

Header:

Bitte vollständig am PC oder deutlich lesbar in **Druckbuchstaben** ausfüllen.

Zulassung zur Abschlussprüfung im Sommersemester Wintersemester

Persönliche Daten **Matrikel-Nummer** **Fachbereich**

Name

Vorname

Studiengang Bachelor Master

Fill out clearly readable (in block letters or electronical) as you did for the application form.

Modules to complete in the current semester:

Im laufenden Semester (Semester der Antragstellung) **habe ich folgende Units belegt:**

Titel der Units	Name der Lehrkraft

Put in the table the name of the units¹ (separate for seminar and lab exercise) in the left hand column and the lecturer of that unit in the right hand column for all units that you have not yet passed and you intend to complete successfully in the current semester (i.e. the semester when you apply).

Modules to complete in the next semester:

Im folgenden Semester (Semester der Erstellung der Abschlussarbeit) **werde ich noch folgende Units belegen und strebe deren Abschluss an:**

Put in the table the name of the units (separate for seminar and lab exercise) that you have not yet passed and you intend to complete successfully in the next semester (i.e. the semester when you intend to do the Thesis). Note that you must do only one module (a maximum of two units) worth 5 credits in parallel to your Thesis.

Signature:

Datum, Unterschrift Student*in

Put in date and sign at the end of Attachment 1.

¹ Modules may contain two units (seminar and lab exercise) or just one unit (just seminar or lab exercise).

Document “Zulassung zur Abschlussprüfung – Anlage 2”: (Attachment 2)

Header:

Bitte vollständig am PC oder deutlich lesbar in **Druckbuchstaben** ausfüllen.

Zulassung zur Abschlussprüfung im Sommersemester Wintersemester

Persönliche Daten **Matrikel-Nummer** **Fachbereich**

Vorname

Name

Studiengang Bachelor Master

Fill out clearly readable (in block letters or electronical) as you did for the application form.

Proposed subject and supervisor(s):

Themenvorschlag

Nur für Fachbereich VI - Basistechniken:

Betreuung

Betreuung Akademischer Grad

Bei geteilter Betreuung: Zweite Betreuung (ggf. extern) Akademischer Grad

Nur für Fachbereich V und Fachbereich VIII Gutachter*in Akademischer Grad

Please enter (in readable form) a proposal for the subject (“*Themenvorschlag*”) and the supervisor (“*Betreuung*”) incl. academic title (“*Akademischer Grad*”). You may suggest two supervisors if you like, although that is rather uncommon. Note that the examination commission of your Thesis will include the supervisor(s) plus an additional reviewer who will be appointed by the examination board. Thus, there will be two members of the commission in case of one supervisor and three members in case of two supervisors. Please note that the supervisor shall be a fulltime professor of the BHT, usually a professor you know from your lectures. External lecturers shall not be proposed as a supervisor.

If you like to suggest a name for the additional reviewer, e.g. an external lecturer please contact your academic coordinator who will consider your suggestion in the examination board. Typically, when you do your Master’s Thesis project in an external company or institute, the external supervisor may serve as additional reviewer.

Accomplishment of the Thesis

Die Abschlussarbeit wird durchgeführt

als Gruppenarbeit zusammen mit (Name, Vorname angeben)

1. Matrikel-Nummer

2. Matrikel-Nummer

an der Hochschule in der Firma/im Institut

Please check the first box, if you intend to do the Thesis as a group of two or three students, in which case you must enter the names and student IDs of your group members as well. Don’t check the box if you do the Thesis alone.

Please check the second box, if you intend to do the Thesis in the University (“*an der Hochschule*”). Mark the third box instead, if you intend to do the Thesis in a company or in an institute (“*in der Firma / im Institut*”). In this case, name the company or institute in the exposé that you submit together with this Attachment 2.

Working period

Die Bearbeitungszeit soll beginnen

zum Vorlesungsbeginn zum Bitte formlose schriftliche Begründung einreichen.

Die vorstehenden Angaben sind mit der vorgeschlagenen Betreuung abgesprochen.

Datum, Unterschrift Student*in

The working period for your Master Thesis is five months, starting with the date set out in the admission letter you will receive once you have been admitted.

Please check the first box (“*Zum Vorlesungsbeginn*”), if the working period should start as soon as possible in the following semester, which is usually the case if you attach Attachment 2 (i.e. make a proposal for subject and supervisor already with your application). Note that admissions will not be issued at the very beginning of the semester anyway but rather approximately one month later because the exam board will have to decide on all the Theses, and that takes some time at the beginning of the semester.

Please alternatively check the second box (“*zum ...*”), if the working period should start at a given date, which you enter in the open field. This is usually the case, if you have a company contract that starts later; or if you need some predetermined time for working into the technology field of your Thesis. You must add a short informal justification (“*Formlose schriftliche Begründung*”) if you do check the second box. You can do that within the exposé.

Enter date and sign!

Signature(s) of supervisor(s):

Befürwortung der Betreuung

Mit dem obigen Vorschlag der/des Student*in bin ich/sind wir einverstanden. Bemerkungen auf der Rückseite

Datum, Unterschrift Betreuung

Nur für die Fachbereiche V, VII und VIII

Datum, Unterschrift gegebenenfalls zweite Betreuung

The information set out above in the form must be agreed with the supervisor you suggest. You must let the supervisor(s) confirm the information set out in the form by their signature(s).

PROBLEM DEFINITION TEMPLATE MIC

Problem Definition for the Master's Thesis of

Ms Emily Doubtfire
Matr.-Nr. 987654
Master's Program Information and Communications Engineering
Beuth Hochschule für Technik, Berlin

Subject: Using the YBLT Framework for Automatic Recognition of Extraterrestrials in Images

Object recognition is a subfield of machine vision and includes the localization of one or more objects in an image and a subsequent classification of the found objects. The quality of an object recognition process can be indicated by detection rates or error detection rates for localization and classification.

The YBLT (*You Better Look Twice*) framework is a family of deep learning models designed for fast object recognition. The approach combines localization and classification in a one-step process, based on the division of the image into a grid of cells, with a prediction in each cell for both localization and object class. A final post-processing step delivers the final recognition result with a certain prediction probability.

Within the scope of this work, using the YBLT framework in the latest version vX, a software is to be designed and implemented that recognizes a selection of extraterrestrial species in an image or image sequences and registers the images accordingly. This software could, for example, make it easier for photographers and scientists travelling in outer space to automatically sort images according to the species shown on the image.

The work will also show how the YBLT framework can be used for the detection and recognition of objects and how an improvement of the recognition and classification rates can be achieved by appropriate adjustments of the models to object families, i.e. a selection of objects.

In detail, the following steps are to be worked on:

- Research on and definition of the state of the art
- Creation of suitable datasets with extraterrestrial images of different species
- Development of a GUI for the selection of images or image sequences and object families to be defined (e.g. Borgs / Ferengi / Xindi) using the programming language Python
- Configuration or adaptation of the YBLT framework / classification model for the different object families
- Display of the recognition result in the GUI (Bounding Boxes, classification result)
- Generation of files with registration data and statistical analysis of detection rates
- Investigations on the adjustments under the aspect of recognition and classification rates for different object families
- Documentation of the software, the functionality and adaptations of the YBLT framework and the results of the investigations and writing the Master's Thesis

Date, Student

Date, Supervisor