

Aptitude Assessment

**Bachelor Information Engineering (at TUM
Campus Heilbronn)
Department of Informatics of TUM**

All information available at

<https://www.in.tum.de/en/for-prospective-students/apply-for-admission/>

What is the „Aptitude Assessment“ (EFV)?

- No limitation of the number of admissions (NC)
- No performance test

Goal → Applicants should consider the requirements of the study program at an early stage

Procedure → Two-stage procedure (review of application documents, including grades and, if necessary, interview)

EFV Stage 1 – What do we review?

Regulations for Bsc. Information Engineering:

1. Average grade of university entrance qualification, e.g. Abitur (65%)
2. The best individual grades from up to four semesters plus the Abitur examination, if applicable (35%):
 - Mathematics (factor three)
 - English (factor one)
 - Natural science (Physics, Chemistry, Biology, Computer Science), that was taken all 4 semesters (factor one)
3. Extracurricular qualifications or additional qualifications, if applicable (max. 6 additional points):

Type of extracurricular qualification	Additional points				
	Full time (35 hours/week or more)			part time	
	1-5 months	6-12 months	> 1 year	> 1 year	> 3 year
Relevant professional education	0	3	6	3	6
Relevant internship	1	2	3	2	3
MINT degree at TUM	2				
Successful participation in "Jugend Forscht" or "Mathematics Olympiad" (at least award at state level)	2				

Result is expressed using a 100-point scale

Result of stage 1

73 points and more	→	<u>direct admission</u>
60 - 72 points	→	Invitation to interview (stage 2)
59 points and less	→	Rejection

Precise rules in the statute on the aptitude assessment on our website:

<https://www.in.tum.de/en/for-prospective-students/apply-for-admission/bachelor-of-information-engineering-at-tum-campus-heilbronn/>

EFV Stage 2 (Interview) – What's relevant?

Duration and place: ca. 20 minutes, virtual

Interview partner: Professor of the department, scientific employee (student representative, if applicable)

Language: Englisch

Content, among others

- Knowledge of the structure of the program and professional opportunities
- Ability to think abstractly, logically and system-oriented and to formalize approaches to solutions
- Ability to solve transdisciplinary problems in the fields of natural sciences, computer science and technology
- Additional qualifications relevant to the program
- Ability to reason in English
- no knowledge beyond general high school education necessary

Documents

- Application documents submitted
- Proof of extracurricular qualifications and additional qualifications, if available

Bewertung

- 50% average grade of the university entrance qualification
- 50% result of the interview

Result of stage 2

- 70 points and more → Eligibility determined → Admission
- 69 points and less → no eligibility determined → Rejection

Calculation examples for better understanding

We would like to point out that the independent conversion to the point scale is only intended to serve as an initial orientation and results may differ in individual cases, especially in the case of a foreign university entrance qualification.

Case study 1: Eligibility in stage 1 for BSc. Information Engineering (German grading system)

For example, an applicant graduated with a university entrance qualification grade of 2.1 and the university entrance qualification diploma contains the following individual grades for the last four semesters and the Abitur (physics being the best continued science including computer science):

Subject	1st semester	2nd semester	3rd semester	4th semester	Abitur
Mathematics	12	10	11	10	11
English	8	9	9	8	
Physics	10	11	10	9	

According to § 5 para. 2 no. 1, the university entrance qualification grade is converted to a scale from 0 to 100 according to conversion formula 1 from Annex 2 as follows:

$$120 - 20 \cdot 2,1 = 120 - 42 = 78$$

The addition of the individual grades with corresponding weighting according to §5 Para. 1 results in:

$$\begin{aligned} & 3 \cdot (12 + 10 + 11 + 10 + 11) + 1 \cdot (8 + 9 + 9 + 8) + \\ & 1 \cdot (10 + 11 + 10 + 9) \\ & = 3 \cdot 54 + 34 + 40 = 236 \end{aligned}$$

According to §5 para. 1, the divisor is the weighted number of individual grades, i.e.

$$3 \cdot 5 + 4 + 4 = 23$$

The overall result of the weighted subject-specific individual grades is thus as follows

$$236 / 23 = 10.2608$$

In accordance with §5 para. 2 no. 2, this is first rounded to one decimal place in favor of the applicant to 10.3 and then converted to a scale of 0 to 100 in accordance with conversion formula 2 from Annex 2: $10 + 6 \cdot 10.3 = 71,8$

The total evaluation of stage 1 according to §5 Para. 2 No. 4 thus initially results from $0.65 \cdot 78 + 0.35 \cdot 71.8 = 75.83$ and is rounded up to 76.

Thus, the applicant is suitable in the first stage and will be admitted according to §5 paragraph 3. .

Case study 2: Invitation to stage 2 of the aptitude assessment BSc. Information Engineering (German grading system) with additional extracurricular qualifications

For example, an applicant graduated with an university entrance qualification grade of 2.9 and the university entrance qualification diploma included the following individual grades for the last four semesters and the Abitur (chemistry being the best continued science including computer science):

Subject	1st semester	2nd semester	3rd semester	4th semester	Abitur
Mathematics	7	7	7	8	7
English	5	6	7	5	
Chemistry	8	5	7	6	

According to § 5 para. 2 no. 1, the university entrance qualification grade is converted to a scale from 0 to 100 according to conversion formula 1 from Annex 2 as follows:

$$120 - 20 \cdot 2,9 = 120 - 58 = 62$$

The addition of the individual grades with corresponding weighting according to §5 Para. 1 results in:

$$\begin{aligned} & 3 \cdot (7 + 7 + 7 + 8 + 7) + 1 \cdot (5 + 6 + 7 + 5) + \\ & 1 \cdot (8 + 5 + 7 + 6) \\ & = 3 \cdot 36 + 23 + 26 = 157 \end{aligned}$$

According to §5 para. 1, the divisor is the weighted number of individual grades, i.e.

$$3 \cdot 5 + 4 + 4 = 23$$

The overall result of the weighted subject-specific individual grades is thus as follows

$$157 / 23 = 6.8260$$

In accordance with §5 para. 2 no. 2, this is first rounded to one decimal place in favor of the applicant to 6.9 and then converted to a scale of 0 to 100 in accordance with conversion formula 2 from Annex 2: $10 + 6 \cdot 6.9 = 51.4$

The total evaluation of stage 1 according to §5 Para. 2 No. 4 thus initially results from $0,65 \cdot 62 + 0,35 \cdot 51,4 = 58,29$ and is rounded up to 59.

In addition, the applicant has successfully participated in the "Jugend Forscht" competition and received an award at the state level. For this, he/she receives a total of 2 additional points in accordance with § 5 Para. 1 No. 3 Sentence 1 and Appendix 2, Item 4.

The applicant thus receives a total of $59 + 2 = 61$ points in stage 1 and will therefore be invited to an interview in stage 2.

Online application procedure

Bachelor program Information Engineering (at TUM Campus Heilbronn) Department of Informatics of TUM

Alle Informationen einsehbar unter

<https://www.in.tum.de/en/for-prospective-students/apply-for-admission/>

Online application: How do I apply?

The application process is completely digital and starts on **May 27th** and ends on **July 31st** (for the **winter semester, one-time extension due to the Corona pandemic**)
online via the internal portal TUMonline

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

No more paper documents need to be submitted for the application. Only in the case of admission, the corresponding documents must be submitted in paper form, if necessary also as a [notarized copy](#), for enrollment.

What do I need enter and what documents do I need to upload?

Entry in TUMonline (until July 31 at the latest!):

- Personal data incl. current e-mail address (reachable!)
- Abitur grades (overall grade and individual grades)
- Preferred dates for interviews

Upload of documents:

- Signed application form
- your university entrance qualification (Abitur certificate or similar)
- Curriculum vitae
- Letter of motivation for the choice of study program
- Copy of valid passport or identity card
- if applicable, preliminary documentation (VPD) from uni-assist for foreign university entrance qualifications - also Austria and Switzerland, but not for Studienkolleg graduates

Application for VPD at uni-assist no later than: **July 31st**

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

Requests regarding online applications to: it-support@tum.de

Check applicant account in TUMonline regularly:
Formal review of uploaded documents (can take a while),
admission decision