



TestAS

Test für Ausländische Studierende

# The digital Test for Academic Studies

Goals, Concept and Test format



## **Voices of our partners**

“The use of the TestAS contributes to the standardisation and transparency of admission procedures. The TestAS provides an objective and reliable assessment of core cognitive competencies that are essential for successful academic study in Germany – such as analytical thinking, problem-solving skills, and the ability to understand complex interrelationships. Our experience shows a clear correlation between strong TestAS results and academic success.”

*Monika Sprung*

*Head of the International Office, Ruhr University Bochum*

“The University of Hamburg has been using the TestAS for the past eleven years as part of a bonus system: applicants with a strong TestAS score can improve the grade of their higher education entrance qualification. The TestAS thus enables us to adjust international school-leaving grades through an objective measure of academic aptitude.”

*Dr Nils Bernstein*

*Coordinator of German as a Foreign Language Division, University of Hamburg*

## The TestAS

- is a fair, objective, and transparent assessment instrument for international applicants across all academic disciplines.
- enables quick and clear comparison of applications, even when comparability and reliability of international school and university qualifications is restricted.
- allows for evidence-based prediction of academic success.
- is an efficient instrument for simplifying and validating your selection and admissions processes (applicants simply submit their TestAS certificate along with their application documents).
- ensures high test security (no shipment of materials, test content is transmitted only shortly before the examination, test administration is protected via a secure browser).
- offers a targeted assessment of aptitude: Test construct and topics are based on academic standards and are continuously developed and reviewed in close cooperation with universities.

## The use of the TestAS enables

- selection decisions based on rankings (e.g., selecting the top 20%).
- selection decisions based on minimum admission thresholds.
- the combination with additional selection criteria, e.g. within a bonus-points system.
- individual utilisation of results within local admissions procedures.

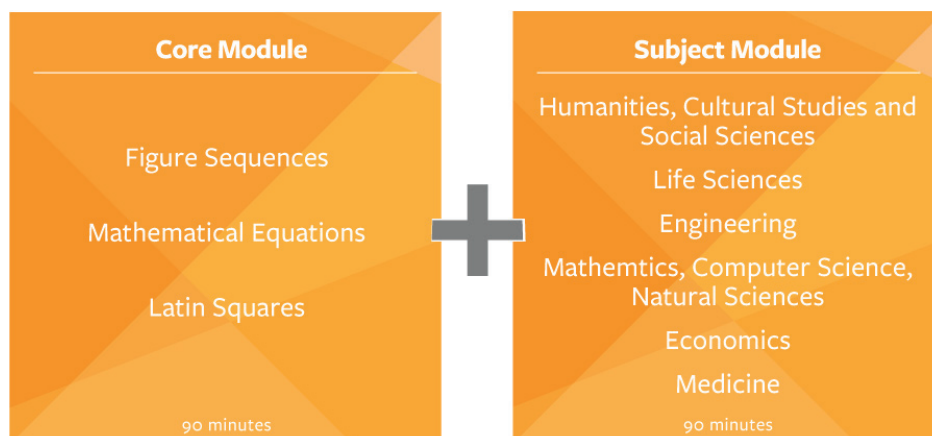


... because  
I want to study  
in Germany



## The digital TestAS

- is a standardised cognitive study aptitude test measuring both general and subject-specific suitability (for six different fields of study).
- is employed by many universities in Germany as a valid, fair, and objective selection instrument.
- is tailored specifically for undergraduate studies in Germany.
- is offered in the test languages German and English (language proficiency levels A2 to B2, CEFR).
- is administered worldwide under supervision at licensed g.a.s.t. test centres.
- consists of two parts:
  - Core Module: assessment of general cognitive abilities relevant to academic study.
  - Subject Module: assessment of subject-specific competencies (six selectable modules).

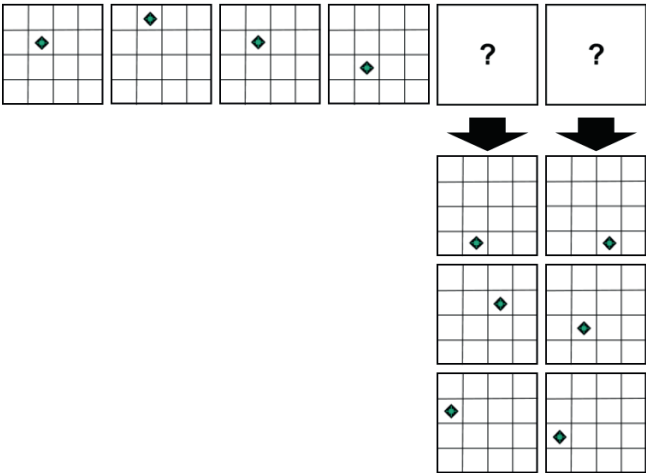


## The Core Module of the digital TestAS

- comprises three extensively tested and reliable task formats.
- assesses cognitive competencies such as working memory, logic, and analytical thinking.
- reflects the latest research developments in cognitive psychology.
- possesses high psychometric quality.
- contains entirely language-free tasks, except for the instructions.

## Figure Sequences

In these tasks, participants are presented with a series of images (matrices). The figures within the matrices may change their position, colour, and/or orientation from one matrix to the next according to specific rules. Participants are required to logically continue the sequence and determine the appearance of the subsequent matrices.



## Mathematical Equations

In this task type, participants are required to solve systems of equations. A system of equations always consists of multiple equations. Participants must determine which numbers need to be assigned to the unknowns (represented by letters) so that all equations hold true. For each letter, there is only one solution that satisfies all the given conditions. Each letter can take a value between 1 and 20.

$$\begin{aligned} 3 \times C &= A \\ A + C &= 8 \\ 2 \times A + 2 \times C &= B \end{aligned}$$

## Latin Squares

In this task type, participants are presented with grids consisting of 5 rows and 5 columns. Some of the grid cells contain letters. Participants must decide which letter should replace the question mark. Each letter may appear once only in each row and column.

square					answer column				
B	?	A	D		A	B	C	D	E
A	B	E	C						
	A								
C			E						
D	E		B						

# The Subject Module in the Digital TestAS

## The contents of the Subject Modules

- are defined in cooperation with universities and continuously developed together with university representatives.
- are established and weighted based on taxonomies and rating studies.
- are specifically tailored to the current academic focus of the targeted study programmes and to the academic demands of studying in Germany in general.

## The tasks in the Subject Modules assess

- fundamental subject-specific knowledge,
- application competence,
- the ability to transfer knowledge, and
- content and formats typical of the respective field of study.

## The tasks in the Subject Modules consist of

- an input providing subject-specific information on a particular issue, and
- a question section with 4 to 10 single-choice questions.

Subject Module: Mathematics, Computer & Natur...

1 2 3 4 5 6 7 8 9 10 11 12

**Redox reactions**

When a substance bonds with oxygen, it is oxidized. An example of *oxidation* is the formation of rust ( $\text{Fe}_2\text{O}_3$ ) from the combination of iron (Fe) and oxygen ( $\text{O}_2$ ):

$$\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$$

When a substance releases oxygen, it is reduced. The *reduction* of mercury oxide is:

$$2\text{HgO} \rightarrow 2\text{Hg} + \text{O}_2$$

Oxidation and reduction often occur together, e.g. when one reaction partner removes oxygen from another and binds it to itself. When reduction and oxidation reactions occur together, one speaks of *redox reactions*. An example is the reaction of thermite:

$$\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow 2\text{Fe} + \text{Al}_2\text{O}_3$$

The redox concept can also be extended: Reactions in which electrons ( $e^-$ ) are transferred are also called redox reactions. Here, the *electron donation* reaction is oxidation and the *electron acceptance* reaction is reduction. The formation of common salt serves as an example:

Oxidation:  $2\text{Na} \rightarrow 2\text{Na}^+ + 2e^-$

Reduction:  $\text{Cl}_2 + 2e^- \rightarrow 2\text{Cl}^-$

Redox reaction (the electrons are not shown):  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$

In general:

Oxidation:  $\text{A} \rightarrow \text{A}^+ + e^-$

Reduction:  $\text{B} + e^- \rightarrow \text{B}^-$

Redox reaction:  $\text{A} + \text{B} \rightarrow \text{A}^+ + \text{B}^-$

Redox reactions occur with complete electron transfer (ionic bond). In addition, the

F1: What happens during the synthesis of water from hydrogen and oxy...

F2: What happens when water is broken down into its elementary compo...

F3: What happens when two single nitrogen atoms (N) react to form a nit...

F4: Non-metal oxides react with water to form acids. For example, sulphur...

F5: During the fermentation of vinegar, ethanol ( $\text{H}_3\text{CCH}_2\text{OH}$ ) reacts with o...

F6: Which formula exclusively describes a reduction reaction?

☐  $\text{Fe} \rightarrow \text{Fe}^{2+} + 2e^-$

☐  $\text{Cu}^{2+} + 2e^- \rightarrow \text{Cu}$

☐  $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$

☐  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{Na}^+ + 2\text{Cl}^-$

F7: Which formula exclusively describes an oxidation reaction?

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back forward

end Subject Module



## The Certificates

- are available for download approximately 2 to 3 weeks after the examination date.
- report results for the Core Module, the Subject Module, and the overall test using two metrics: percentile rank and TestAS Score.
- are valid indefinitely.

The **percentile rank** allows for the comparison of a participant's performance with that of other participants. A percentile rank of 70, for example, means that 70% of all participants achieved a lower or equal score, while 30% achieved a higher score. Universities can use the percentile rank to establish a ranking (e.g. by selecting applicants with the top 10 percentile ranks).

The **score** is a conversion of the raw test result into a **standardised** value ranging from 0 to 200. The average score is set at 100. The TestAS score makes it easy to determine whether a performance falls within the lower or upper average range (50–100 or 100–150), or whether it represents an above-average result (150–200).

The overall score is calculated by adding the scores from the Core Module and the Subject Module, resulting in a total score ranging from 0 to 400.





# TestAS Certificate

Mr/Ms **John Doe**  
born on **01.01.2001**  
has taken the digital TestAS  
on **15. Juni 2022**  
at the test centre **Sampletestcenter**

with the following results:

## PERCENTILE RANK

0 51 100

0 80 100

## SCORE

0 100 200

0 150 200

**Total score**

**250**

A description of the TestAS result scales can be found at [www.testas.de/zertifikat](http://www.testas.de/zertifikat)

This certificate was issued electronically by the TestDaF Institute and is valid without a signature. The authenticity of the certificate can be checked online.



Participant no. **12345**

Test for Academic Studies (TestAS) is a registered trademark of the Gesellschaft für Akademische Studienvorbereitung und Testentwicklung e.V. (g.a.s.t.) (Society for Academic Study Preparation and Test Development). The development of TestAS was sponsored by the German Academic Exchange Service (DAAD) and the German Rectors' Conference (HRK).

The format and item types of the digital TestAS were developed in cooperation with the Department of Differential Psychology and Psychological Diagnostics at the University of Ulm and the Department of Psychological Diagnostics at the University of Kassel.

DAAD

Deutscher Akademischer Austauschdienst  
German Academic Exchange Service

**HRK**

Results are handed out for both parts of the exam.

Core Module

Subject Module Engineering

Results are differentiated according to percentile rank and TestAS score.

The total score results from the addition of the partial scores.

A personalized QR-Code enables verification.





The Gesellschaft für Akademische Studienvorbereitung und Testentwicklung e.V. (Society for Academic Study Preparation and Test Development; g.a.s.t.) is a non-profit organisation with around 100 employees and a network of more than 1,000 partner institutions in over 100 countries.

g.a.s.t. is Germany's leading provider of internationally certified language and aptitude tests for university admission and also operates an online language learning platform. Through research projects, g.a.s.t. contributes to content-based and technological innovation in national and international education. Teachers, academics, and test centres benefit from a wide range of professional development opportunities offered by the g.a.s.t. Academy.

Members of g.a.s.t. include the German Rectors' Conference (HRK), the German Academic Exchange Service (DAAD), the Goethe-Institut, the universities of Hagen, Bochum, Leipzig, and Munich, as well as the FaDaF and the AKS.

The g.a.s.t.-owned TestDaF Institute is affiliated with the University of Hagen (FernUniversität in Hagen) and Ruhr University Bochum as an associated institute (An-Institut).

## **Impressum**

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## **Fotos**

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## **g.a.s.t.**

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