Technische Universität Berlin
Outline

- History and Campus
- Profile
- Teaching
- Internationalization
History and Campus

Profile
Teaching
Internationalization
History and Campus

19th century

21st century
1770 – 1821 • Founding of the forerunner academies: Mining Academy, Building Academy, Vocational Academy

1879 • Unification into Royal Technical College of Berlin

1945 – 1946 • Closure of the Technische Hochschule Charlottenburg and re-establishment under the new name: Technische Universität Berlin

1950 • Establishment of the School of Humanities
<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franz Reuleaux</td>
<td>1829-1905</td>
<td>Machine kinematics</td>
</tr>
<tr>
<td>Adolf Slaby</td>
<td>1849-1913</td>
<td>Radiotelegraphy</td>
</tr>
<tr>
<td>Alois Riedler</td>
<td>1850-1936</td>
<td>Motor vehicle construction</td>
</tr>
<tr>
<td>Adolf Miethe</td>
<td>1862-1927</td>
<td>Three-color photography, the flashlight</td>
</tr>
<tr>
<td>Georg Schlesinger</td>
<td>1874-1949</td>
<td>Machine tool design and factory management</td>
</tr>
<tr>
<td>Hermann Föttinger</td>
<td>1877-1945</td>
<td>The fully automatic gear box</td>
</tr>
<tr>
<td>Gustav Hertz*</td>
<td>1887-1975</td>
<td>Laws governing the impact of an electron upon an atom</td>
</tr>
<tr>
<td>Hans Geiger</td>
<td>1882-1925</td>
<td>The Geiger Counter</td>
</tr>
<tr>
<td>Dennis Gábor*</td>
<td>1900-1979</td>
<td>Holography</td>
</tr>
<tr>
<td>Eugene Wigner*</td>
<td>1902-1995</td>
<td>Quantum mechanics</td>
</tr>
<tr>
<td>Ernst Ruska*</td>
<td>1902-1988</td>
<td>The electron microscope</td>
</tr>
<tr>
<td>Konrad Zuse</td>
<td>1910-1996</td>
<td>The first freely programmable computing machine</td>
</tr>
<tr>
<td>Gerhard Ertl*</td>
<td>1936-</td>
<td>Chemical processes on solid surfaces</td>
</tr>
</tbody>
</table>

*Nobel prize laureate
History and Campus

Profile

Teaching

Internationalization
• around 600,000 sq m base area distributed over several locations in Berlin
• 122 buildings (19,000 rooms)
Technische Universität Berlin, a university with international reputation in Germany's capital and in the heart of Europe.

Third largest university of technology in Germany.

Intensive cooperation between science and industry.

Research and teaching ranging from engineering and natural sciences to humanities and social sciences.

Alliance between technology and humanities to meet the challenges of the future.

Joint research projects with numerous non-university research institutes.
Staff

- **345** Professors
- **370** Visiting professors and associated lecturers
- **2711** Scientific staff
  - Financed by third-party funds: 1706 (63%)
- **2084** Other employees
  - Financed by third-party funds: 253 (12%)
In 2016: about 523,000 € of fundings acquired per professor
In the past 10 years: a rise of 230%
## Profile | Faculties

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Institutes/centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty I</td>
<td>7 institutes/centers</td>
</tr>
<tr>
<td>Faculty II</td>
<td>6 institutes</td>
</tr>
<tr>
<td>Faculty III</td>
<td>6 institutes</td>
</tr>
<tr>
<td>Faculty IV</td>
<td>6 institutes</td>
</tr>
<tr>
<td>Faculty V</td>
<td>7 institutes</td>
</tr>
<tr>
<td>Faculty VI</td>
<td>8 institutes</td>
</tr>
<tr>
<td>Faculty VII</td>
<td>3 institutes</td>
</tr>
</tbody>
</table>

### Central Institutes

- **Central Institute El Gouna**
- **Central Institute School of Education**

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Technische Universität Berlin | International Scientific Cooperation
Main focus of the degree programs and research:
Growth of population and climate change require new strategies to tap new living spaces, water and energy.
Profile | Core areas in research and education

Beneficial Processes and Products

Engineering

- Materials, Design and Manufacturing
- Cyber-Physical Systems
- Knowledge and Communication Systems
- Infrastructure and Mobility
- Human Health

Our Vision: Solutions for Societal Challenges

Planning and Management

Competitive Qualification
Natural Sciences
Mathematics
Creating New Job Areas

Technological Innovation
Computer Science
Humanities
Knowledge Management

Technische Universität Berlin | International Scientific Cooperation
TU Berlin as coordinating university
**Profile | Collaborative Research (selection)**

**Technische Universität Berlin | International Scientific Cooperation**

- **Collaborative Research Centers (SFB): 18**
- **Research Units (FOR): 10**
- **Research Training Groups: 10**

**BMBF**

- **TU Berlin as coordinator**
  - BeMobil
  - Berlin Big Data
  - BerlinHECOR
  - Software Campus

- **with participation of the TU Berlin**
  - Bernstein Center for Computational Neuroscience Berlin (BCCN)
  - The German Internet Institute

and others (e.g. EU Research and Innovation Projects such as Horizon 2020 and FP7)
non-university research institutions, i.a.:

industry and private investors, i.a.:

- Fraunhofer
- HELMHOLTZ GEMEINSCHAFT
- MAX-PLANCK-GESELLSCHAFT
- Leibniz
- Daimler Center for Automotive Information Technology Innovations
- SIEMENS
- Bayer HealthCare
- thyssenkrupp
- BASF
- Stiftung VEOLIA
- VOLKSWAGEN
- SAP
• Currently 20 PhD projects
• 35 Tech startups per year
• 150+ Tech startups since 2007
• More than 80% of startups are still in business

• Labeled as „The Entrepreneurial University - EXIST“ („Die Gründerhochschule“) by the Federal Ministry for Economic Affairs and Energy
• Currently No. 2 in GER of EXIST- Universities
History and Campus
Profile
Teaching
Internationalization
Teaching | Facts and figures

Students: 35,009

<table>
<thead>
<tr>
<th>Male:</th>
<th>Female:</th>
</tr>
</thead>
<tbody>
<tr>
<td>23,506</td>
<td>11,503</td>
</tr>
<tr>
<td>(67%)</td>
<td>(33%)</td>
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</tbody>
</table>

Doctorates: 504

Post doctoral lecture qualification: 6

International students: 7,962 (23%)

Degree Programs: more than 150

Double Degrees: 38

(with universities in Argentina, Brazil, Chile, China, France, Republic of Korea, Poland, Russia, Serbia)

Programs in English: 26
<table>
<thead>
<tr>
<th>Teaching</th>
<th>Courses in English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture - Typology, M.Sc.</td>
<td></td>
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<tr>
<td>Building Sustainability - Management Methods for Energy Efficiency, M.B.A.</td>
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<tr>
<td>Computational Neuroscience, M.Sc.</td>
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<tr>
<td>Computer Science, M.Sc.</td>
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<tr>
<td>Energy Engineering, M.Sc.</td>
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<tr>
<td>Energy Management, M.B.A.</td>
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<tr>
<td>Environmental Planning, M.Sc.</td>
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<tr>
<td>European Studies</td>
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<tr>
<td>European and International Energy Law, M.B.L.</td>
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<tr>
<td>Geodesy and Geoinformation Science, M.Sc.</td>
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<tr>
<td>Global Production Engineering, M.Sc.</td>
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<tr>
<td>ICT Innovation, M.Sc.</td>
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<tr>
<td>Industrial and Network Economics, M.Sc.</td>
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<tr>
<td>Information Systems Management, M.Sc.</td>
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<tr>
<td>Innovation Management, Entrepreneurship and Sustainability (IMES), M.Sc.</td>
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<tr>
<td>IT for Energy, M.Sc.</td>
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<tr>
<td>Polymer Science, M.Sc.</td>
<td></td>
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<tr>
<td>Process Energy and Environmental Systems</td>
<td></td>
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<tr>
<td>Scientific Computing, M.Sc.</td>
<td></td>
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<tr>
<td>Space Engineering, M.Sc.</td>
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<tr>
<td>Sustainable Mobility Management, M.B.A.</td>
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<tr>
<td>Urban Development, M.Sc.</td>
<td></td>
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<tr>
<td>Urban Management, M.Sc.</td>
<td></td>
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<tr>
<td>Water Engineering, M.Sc.</td>
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</tbody>
</table>
Teaching | Students by subject (Summer 2017)

Engineering Sciences 23,062
Natural Sciences & Mathematics 6,215
Others 3,757
Social and economic sciences 1,863
Humanities 1,894
History and Campus
Profile
Teaching
Internationalization
Internationalization | Fields of action

**External**
- strategic partnerships
- research cooperation
- liaison offices
- Campus El Gouna
- student exchange
- double/dual degrees

**Administration**
- human resource development
- exchange

**Studying & Teaching**
- international studies
- international students
- summer schools

**Research & junior academics**
- exchange
- int. recruiting

**Structure**
- international website
- English forms/calls

**Internationalization @ home**
Institutions with an existing student exchanges, dual degree programs or Memorandums of Understanding
Internationalization | Facts and figures

Student body
• 23% international students

Professorships
• 6% international professors
• more than 16% international research associates

Alumni
• award-winning alumni network maintains contacts with TU alumni from over 130 countries
(Winter 17/18, more than 10 students per country)
Internationalization | Reasons to study at TUB

Importance in percent: 0 % = not important, 100 % = very important

- Good reputation of teaching staff
- Tostudy in German
- Good rankings of the university
- Low fees and cost of living
- Good reputation of the study program
- Good reputation of the university
- Good reputation of academic studies in Germany
- Profile of the study program
- Attractiveness of Berlin
- Good reputation of teaching staff
- Tostudy in German
- Good rankings of the university
- Low fees and cost of living
- Good reputation of the study program
- Good reputation of the university
- Good reputation of academic studies in Germany
- Profile of the study program
- Attractiveness of Berlin

Survey among 300 international students in december 2015
Worldwide approx. 5000 contacts outside of Germany in 138 countries
• Total of 204 students (2017)
• 42 different countries (2017)

• 3 four-week-terms in summer, one in winter
• A total of 18 different courses with innovative topics (e.g. “blue engineering“)
• Cultural activities
• Participants can achieve up to 13 ECTS
Thank you for your attention!