### 10 faculties, 28,000 students, 1,400 academic staff members

<table>
<thead>
<tr>
<th>Faculty 1</th>
<th>Architecture and Urban Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty 2</td>
<td>Civil and Environmental Engineering</td>
</tr>
<tr>
<td>Faculty 3</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Faculty 4</td>
<td>Energy Technology, Process Engineering and Biological Engineering</td>
</tr>
<tr>
<td>Faculty 5</td>
<td>Computer Science, Electrical Engineering and Information Technology</td>
</tr>
<tr>
<td>Faculty 6</td>
<td>Aerospace Engineering and Geodesy</td>
</tr>
<tr>
<td>Faculty 7</td>
<td>Engineering Design, Production Engineering and Automotive Engineering</td>
</tr>
<tr>
<td>Faculty 8</td>
<td>Mathematics and Physics</td>
</tr>
<tr>
<td>Faculty 9</td>
<td>Humanities</td>
</tr>
<tr>
<td>Faculty 10</td>
<td>Management, Economics and Social Science</td>
</tr>
</tbody>
</table>
Das Organ für Akkreditierung und Qualitätssicherung
der schweizerischen Hochschulen OAQ
verleiht im Auftrag des Akkreditierungsrates

DAS GÜTESIEGEL

für die

SYSTEMAKKREDITIERUNG
der

UNIVERSITÄT STUTTGART

Die Systemakkreditierung ist gültig bis
31. März 2019

Zürich, 27. September 2012

Prof. Dr. Dieter Euler
Präsident Akkreditierungskommission

Dr. Christian Grothmund
Direktor OAQ
SEM – The Stuttgart Evaluation Model
SEM – The Stuttgart Evaluation Model
Program review – what are we interested in?

Aims of the review process

• The central role of the self-assessment in the preparation of the review process leads to an increase in reporting quality.

• The review boards involve all stakeholders: chaired by the vice-rector, all boards consist of 2 professors, 1 staff, 1 student representative, 2 program students).

• The review results incorporate the external evaluation and the results of the internal discussions of the review boards, thus providing a comprehensive basis for further action.

• the review process initiates discussions (pre- and post-review) regarding the further development of the program on all levels (program as well as university management)
SEM – Internal Mechanism

Diagram showing the process:

1. Program Board
2. Self Assessment
3. Review Board
4. Feedback

The diagram illustrates the flow from Program Board to Self Assessment to Review Board and finally to Feedback.
10 faculties, 28,000 students, 1,400 academic staff members

Faculty 1 - Architecture and Urban Planning
Faculty 2 - Civil and Environmental Engineering
Faculty 3 - Chemistry
Faculty 4 - Energy Technology, Process Engineering and Biological Eng.
Faculty 5 - Computer Science, Electrical Engineering and Information Tech.
Faculty 6 - Aerospace Engineering and Geodesy
Faculty 7 - Engineering Design, Production Engineering and Automotive Eng.
Faculty 8 - Mathematics and Physics
Faculty 9 - Humanities
Faculty 10 - Management, Economics and Social Science
SEM – Internal Mechanism

Program Board → Self Assess → Review Board → Feedback
SEM – External Element

External Evaluation
Shortlist suggested by programs, choice by Vice-Rector
Bachelor’s Programs

Engineering Sciences
- Aerospace Engineering B.Sc.
- Architecture and Urban Planning B.Sc.
- Automotive and Engine Technology B.Sc.
- Civil Engineering B.A. (minor subject)
- Civil Engineering B.Sc.
- Computer Sciences B.A. (minor subject)
- Electrical Engineering and Information Technology B.A. (minor subject)
- Electrical Engineering and Information Technology B.Sc.
- Engineering Cybernetics B.Sc.
- Environmental Engineering B.Sc.
- Geodesy and Geoinformatics Engineering B.Sc.
- Informatics B.Sc.
- Information Systems B.Sc.
- Mechanical Engineering B.Sc.
- Mechanical Engineering B.A. (minor subject)
- Mechanics B.Sc.
- Medical Engineering B.Sc.
- Natural Language Processing B.Sc.
- Process Engineering B.Sc.
- Real Estate Engineering and Management B.Sc.
- Renewable Energy Engineering B.Sc.
- Simulation Technology B.Sc.
- Software Engineering B.Sc.
- Technical Education B.Sc.
- Technology Management B.Sc.
- Transport Engineering B.Sc.

Natural Sciences and Mathematics
- Chemistry B.A. (minor subject)
- Chemistry B.Sc.
- Food Chemistry B.Sc.
- Mathematics B.Sc.
- Mathematics B.A. (minor subject)
- Mathematics B.Sc.
- Physics B.A. (minor subject)
- Physics B.Sc.
- Technical Biology B.Sc.

Languages and Cultural Sciences
- Art History B.A. (major subject, minor subject)
- English B.A. (major subject, minor subject)
- German B.A. (major subject, minor subject)
- History B.A. (major subject, minor subject)
- History of Natural Sciences and Technology B.A.
- Linguistics B.A. (single subject)
- Linguistics B.A. (major subject, minor subject)
- Natural Language Processing B.Sc.
- Philosophy B.A. (single subject)
- Philosophy B.A. (minor subject)
- Romance Studies B.A. (single subject)
- Romance Studies B.A. (major subject, minor subject)

Business and Social Sciences
- Business Administration, technically oriented B.Sc.
- Business Administration B.A. (minor subject)
- Economics B.A. (minor subject)
- Internal Sciences B.A. (minor subject)
- Social Sciences B.A. - German-Friend
- Social Sciences B.A. (single subject)
- Sociology B.A. (minor subject)
- Sport Science B.A. (single subject)
- Sport Science B.A. (minor subject)
- Technical Education B.Sc.
- Vocational Education/Technical Education B.A.
  (major subject, minor subject)
Master’s Programs

Engineering Sciences
- Air Quality Control, Solid Waste and Waste Water Process Engineering
  WASTE M.Sc. – in English
- Automotive and Engine Technology M.Sc.
- Civil Engineering M.Sc.
- Computational Linguistics M.Sc. – mainly in English
- Aerospace Engineering M.Sc.
- Computational Mechanics of Materials and Structures (COMMAS) M.Sc. – in English
- Computer Science M.Sc. – mainly in English
- Electrical Engineering M.Sc.
- Electrical Engineering and Information Technology M.Sc.
- Energy Engineering M.Sc.
- Engineering Cybernetics M.Sc.
- Environmental Engineering M.Sc.
- Geodesy and Geoinformatics Engineering M.Sc.
- Geomatics Engineering (GEOENGINE) M.Sc. – in English
- Informatics M.Sc.
- Information Technology (INFOTECH) M.Sc. – in English
- Infrastructure Planning M.Sc. – in English
- Integrated Urbanism and Sustainable Design M.Sc. – in English
- Integrative Technologies and Architectural Design Research (ITECH) M.Sc. – in English
- Mechanical Engineering M.Sc. Georgia Tech. – in English (planned for WS 14/15)
- Mechanical Engineering / Micro, Precision and Optical Engineering M.Sc.
- Mechanical Engineering / Product Development and Engineering Design M.Sc.
- Mechanical Engineering / Materials and Production Engineering M.Sc.
- Mechanical Engineering M.Sc.
- Mechatronics M.Sc.
- Medical Engineering M.Sc.
- Photonics Engineering M.Sc.
- Public Planning and Participate M.Sc.
- Process Engineering M.Sc.
- Real Estate Engineering and Management M.Sc.
- Simulation Technology M.Sc.
- Software Engineering M.Sc.
- Sustainable Electric Power Supply M.Sc.
- Technical Education M.Sc.
- Technology Management M.Sc.
- Water Resources Engineering and Management (WAREWI) M.Sc. – in English

Natural Science and Mathematics
- Chemistry M.Sc.
- Materials Science M.Sc. – mainly in English
- Mathematics M.Sc.
- PHYSICS M.Sc. – in English
- Physics M.Sc.
- Technical Acoustics M.Sc.

Languages and Cultural Sciences
- Art History M.A.
- Computational Linguistics M.Sc. – mainly in English
- Cultures of Knowledge M.A.
- English M.A.
- German Literature M.A.
- History – Sources and Interpretations M.A.
- Philosophy M.A.
- Pragmatically Oriented Philosophy of Science M.A.
- Forensic Studies M.A.
- Theoretical and Comparative Literature M.A.

Business and Social Sciences
- Business Administration, technical
- Empirical Social and Political Analysis
- Empirical Social and Political Analysis
- Exercise Science: Health Promotion
- Information Systems M.Sc.
- Public Planning and Participation M.Sc.
- Technical Education M.Sc.
<table>
<thead>
<tr>
<th>Internal cycle</th>
<th>External cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>every 2 years</td>
<td>every 6 years</td>
</tr>
</tbody>
</table>
| Courses and modules are subject to **regular surveys**  | Self-evaluation report and additional material is subject
|                                                        | to **external evaluation**                             |
| Program-based **information** on qualification goals, | Part 1: Organizational and formal aspects evaluated by
| infrastructure, students, successful completion,      | the **internal** quality assurance staff               |
| graduate surveys etc. is provided                      |                                                        |
| Program director and program board use the            | Part 2: Subject-specific and Curricular aspects evaluated by
| information to prepare a **self-assessment** report    | **external** expert from the discipline                 |
|                                                        |                                                        |
| Written **feedback** prepared by the quality assurance | Assessment of evaluation and formal aspects discussed by
| staff and approved by the vice rector                  | **review board** and preparation of written feedback    |

**SEM**

The Stuttgart Evaluation Model
<table>
<thead>
<tr>
<th>Evaluation group 1</th>
<th>Evaluation group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculties 1,2,6,9,10</td>
<td>Faculties 3,4,5,7,8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Activity</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>Self-evaluation report</td>
<td>Module evaluation</td>
</tr>
<tr>
<td>Summer</td>
<td><strong>Program Review</strong></td>
<td>Module evaluation</td>
</tr>
<tr>
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<td>...</td>
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**SEM**

The Stuttgart Evaluation Model
Sample for baseline and midline studies
Members of program boards and review committees

<table>
<thead>
<tr>
<th>Group 1 (2014-15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering (BSc/MSc)</td>
</tr>
<tr>
<td>German (BA/MA), Linguistics (BA single, double/MA)</td>
</tr>
<tr>
<td>Romance Studies (BA single, double/MA)</td>
</tr>
<tr>
<td>Real Estate Engineering and Management (BSc/MSc)</td>
</tr>
<tr>
<td>Integrated Gerontology (MA Online, program will be discontinued)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 2 (2015-16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive and Engine Engineering (BSc/MSc)</td>
</tr>
<tr>
<td>Renewable Energies (BSc), Energy Engineering (MSc)</td>
</tr>
<tr>
<td>Engineering Cybernetics (BSc/MSc)</td>
</tr>
<tr>
<td>Informatics (BSc/MSc), Software Engineering (BSc/MSc)</td>
</tr>
<tr>
<td>Mechatronics (BSc/MSc)</td>
</tr>
<tr>
<td>Physics (BSc/MSc), PHYSICS (MSc in English)</td>
</tr>
<tr>
<td>Technology Management (BSc/MSc)</td>
</tr>
</tbody>
</table>
### Timeline and sample size baseline 1/2 and midline 1/2

Members of program boards and review committees

<table>
<thead>
<tr>
<th>Group 1 Baseline (07-08/2014)</th>
<th>Group 1 Midline  (04-05/2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited</td>
<td>Participated</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
</tr>
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4 program boards responsible for 13 study programs (planning, engineering, humanities)

<table>
<thead>
<tr>
<th>Group 2 Baseline (07-08/2015)</th>
<th>Group 2 Midline (02-03/2016)</th>
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</thead>
<tbody>
<tr>
<td>Invited</td>
<td>Participated</td>
</tr>
<tr>
<td>85</td>
<td>38</td>
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</tbody>
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8 program boards responsible for 17 study programs (natural sciences, engineering)
Timeline and sample size baseline 1/2 and midline 1/2

Members of program boards and review committees

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4 program boards responsible for 13 study programs (planning, engineering, humanities !)

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<td>Group 2</td>
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<td>38</td>
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</table>

8 program boards responsible for 17 study programs (natural sciences, engineering)
Focus midline
Comparing the sample groups – general issues

• Learning curve: the first group went through the first “proper” review process - previously we only had a pilot review with two programs.

• Changes in the process: program representatives of the second group were asked to participate in a part of the review committee session to clarify and discuss critical points.

• Extensive communication: more information and consultation sessions with programs were offered at the start of the review process.
Focus midline

Study Programs Midline 1
Focus midline

Study Programs Midline 1

- Linguistik (4)
- Germanistik (5)
- Romanistik (3)
- Bauingenieurwesen (3)
- Immobilienwirtschaft und Immobilientechnik (4)
- Integrierte Gerontologie (5)
- Serie6
Focus midline

Study Programs Midline 2
Focus midline

Study Programs Midline 2
Focus midline
Some points regarding external evaluations

• External evaluations were mostly in tune with the idea of a “critical friend” commenting - they mostly included some constructive criticism but mostly stressed positive.

• Both groups overwhelmingly reported that the external evaluations were discussed in the study boards and a majority saw the evaluations as initiating discussions about the program.

• Participants overwhelmingly saw the external evaluation as confirming the strengths of the programs showing that they are “on track” - comments sometimes downplayed critical issues.

• Regarding the question whether weaknesses and, thus, potential areas of improvement were identified by the external evaluation the participants are split (roughly) even in both groups.
Focus midline

Some points on review boards – comparing the groups

Q: Recommendations of the review board regarding organization will help to improve the program

scale: agree - partly agree - partly disagree - disagree - don't know - no answer - not completed
Focus midline
Some points on review boards – comparing the groups

Q: Recommendations of the review board regarding content will help to improve the program

scale: agree - partly agree - partly disagree - disagree - don't know - no answer - not completed
Focus midline

Some points on review boards – comparing the groups

Q: Recommendations of the review board were comprehensible for the program board

scale: agree - partly agree - partly disagree - disagree - don't know - no answer - not completed
Focus midline

Some points on review boards – comparing the groups

Q: Recommendations of the review board were comprehensible for the program board

scale: agree - partly agree - partly disagree - disagree - don’t know - no answer - not completed
Focus midline – what do we learn?
Did we reach our aims?

• **Quality of reporting** did increase in many cases though experiences from the review process suggests that it might not be related - there rather might be a trend to “overreport”.

• **Involvement of all stakeholders** could mostly be ensured but turned out to be problematic on two counts: motivating students from every program and having professorial representation from roughly comparable disciplines.

• **Incorporation of external evaluation and** the results of the **internal** discussions was lacking. Programs need more extensive feedback to improve acceptance from critical corners and used the lack of reference to the external evaluation to repudiate the overall feedback.

• **Initiation of discussion** was certainly achieved - though not always with the intended outcome! Critical points already came through in the pre-review discussions and were carried through to the post-review feedback and might have the potential to damage established processes.
Focus midline – what do we learn?
Some conclusions

• Self-reporting has become professionalized and results needs to be validated by combining the external evaluations and discussions in the review board. Furthermore, reporting frequency has to ensure that it is realistic to actually plan and initiate measures that can be reported.

• Recommendations of the review board must be well reasoned and include both the external evaluation and the internal discussions. Ideally at least one professorial member of the board should come from a somewhat related discipline - program already have a hard time accepting criticism from “outside”.

• The test for the acceptance of the review procedure is the first critical case - do programs accept an intervention or critical remarks from outside their own expert culture (intended) or do they just “play along” as long as the process is affirmative (rather not intended).