

DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

| Course Details | | | | |
|---------------------------------------|---|----------------------|-----------------|---------------------|
| Code | | Academic Year | | Semester |
| BAU109 | | 1 | | Fall |
| Title | | T | A | L |
| Statics | | 3 | 2 | 6 |
| Language | German | | | |
| Level | Undergraduate | ✓ | Graduate | Postgraduate |
| Department / Program | Civil Engineering | | | |
| Forms of Teaching and Learning | Formal | | | |
| Course Type | Compulsory | ✓ | Elective | |
| Objectives | Basic terms and equations of mechanics for static systems. | | | |
| Content | The students learn the basic terms and equations of mechanics for static systems. You are made aware of the equilibrium conditions in various systems such as bearings, supporting structures and trusses. They are able to analytically calculate the bearing and reaction forces in a rigid body system. You know the relationships for calculating the cutting loads in a beam. In particular, complicated geometry such as the bent and curved beam is taught, so that the students are able to calculate practical examples. Based on what they have learned, the students are able to familiarize themselves independently with other areas of technical mechanics and to take the aspects of technical mechanics in to account in future projects. | | | |
| Prerequisites | - | | | |
| Coordinator | | | | |
| Lecturer(s) | | | | |
| Assistant(s) | | | | |
| Work Placement | | | | |
| Recommended or Required Reading | | | | |
| Books / Lecture Notes | -Wolfgang H. Müller, Ferdinand Ferber, Technische Mechanik für Ingenieure, 4. Auflage, Hanser Verlag / Fachbuch Verlag Leipzig. -Russell C. Hibbeler: Technische Mechanik/2 - Festigkeitslehre 8. Aktualisierte Aufl. München: Pearson Studium 2013 (insges. 3 Bände). -Martin Mayr: Technische Mechanik. Übungs Beispiele und Aufgaben. 2. starkerw. Auflage. München: Hanser 2000. | | | |
| Other Sources | | | | |
| Additional Course Material | | | | |
| Documents | - | | | |
| Assignments | - | | | |
| Exams | - | | | |

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| Course Composition | | | |
|------------------------------------|--|--|-------------------|
| Mathematics und Basic Sciences | 100 | | % |
| Engineering | | | % |
| Engineering Design | | | % |
| Social Sciences | | | % |
| Educational Sciences | | | % |
| Natural Sciences | | | % |
| Health Sciences | | | % |
| Expert Knowledge | | | % |
| Assessment | | | |
| Activity | Count | Percentage (%) | |
| Midterm Exam | 1 | 40 | |
| Quiz | | | |
| Assignments | | | |
| Attendance | | | |
| Recitations | | | |
| Projects | | | |
| Final Exam | 1 | 60 | |
| | | Total | 100 |
| ECTS Points and Work Load | | | |
| Activity | Count | Duration | Work Load (Hours) |
| Lectures | 14 | 3 | 42 |
| Self-Study | 14 | 3 | 42 |
| Assignments | | | |
| Presentation / Seminar Preparation | | | |
| Midterm Exam | 1 | 2 | 10 |
| Recitations | 14 | 2 | 28 |
| Laboratory | | | |
| Projects | | | |
| Final Exam | 1 | 2 | 15 |
| | | Total Work Load | 137 |
| | | ECTS Points(Total Work Load / Hour) | 6 |
| Learning Outcomes | | | |
| 1 | The students know the basic relationships of the technical mechanics of the rigid body (statics). | | |
| 2 | They are familiar with the interdependencies of forces, moments and load transfer in components and are able to carry out static analyzes on structures (bars and beams) themselves. | | |

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| 3 | Based on what they have learned, the students are able to familiarize themselves independently with other areas of technical mechanics and to take the aspects of technical mechanics into account in future projects. |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |

WeeklyContent

| | |
|----|--|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |

Contribution of Learning Out comes to Program Objectives(1-5)

| | P1 | P2 | P3 | P4 | P5 | P6 | P7 |
|---|----|----|----|----|----|----|----|
| 1 | 5 | 4 | 4 | | | | |
| 2 | 5 | 4 | 4 | | | | |
| 3 | 5 | 4 | 4 | | | | |
| 4 | 5 | 4 | 4 | | | | |
| 5 | 5 | 4 | 4 | | | | |



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|-----------------------------|---|--|--|--|--|--|--|
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| Contribution Level | 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High | | | | | | |
| Compiled by: | | | | | | | |
| Date of Compilation: | 16.03.2020 | | | | | | |