TEACHING AND LEARNING SYSTEMS FOR EXPERIMENTS IN ENGINEERING MECHANICS

Engineering Mechanics as the foundation of machine design

Design is a key, and highly challenging, aspect of an engineer’s work. Teaching must prepare students for those challenging tasks by a thorough study of the fundamental underlying principles.

That includes in particular:

- **Engineering Mechanics**
- **Machine Elements**
- **Theory of Machines**
- **Fundamentals of Materials**
- **Technical Drawing**

Experiments help to provide a deeper understanding of the material and link basic theoretical knowledge to practice in a realistic manner.

“The purpose of studying machine element design is to fill the toolbox of young engineers, so that problem-solving and design synthesis activities can be flexible and unconstrained.”


The GUNT experimentation and demonstration units in this catalogue will help you develop basic knowledge.

Alongside lectures, tutorials and exercises, laboratory experiments are an essential tool in firmly rooting basic knowledge in students’ minds and developing their ability to apply that knowledge based on realistic practice.

On pages 50-51 and 106-107 you will find a chart matching the key learning content in STATICS and STRENGTH OF MATERIALS to the corresponding GUNT demonstration and experimentation units.

What learning content can you cover by deploying the GUNT training systems set out in this catalogue?

### LEARNING CONTENT IN STATICS

**TOPICS COVERED IN STATICS**

- Forces and Moments
- Friction
- Forces in a Truss
- Internal Reactions/Method of Sections
- Bridges, Beams, Arches

**First the fundamentals, then the specifics**

### LEARNING CONTENT IN STRENGTH OF MATERIALS

**TOPICS COVERED IN STRENGTH OF MATERIALS**

- Elastic Deformations
- Buckling and Stability
- Compound Stress
- Stress and Strain Analysis

“Engineering Mechanics is the essential introduction to the field of engineering, as it provides both learning content and methodological training.”

Prof. Dr.-Ing. Frank Mestemacher, Department of Mechanical Engineering, Fachhochschule Stralsund