

Module 0952 Introduction to Technology

1	Module no. 0952	Major TBB	Semester 1	Offering <input checked="" type="checkbox"/> WS <input checked="" type="checkbox"/> SS	Duration 1 Semester	Module Type Obligatory	Workload (hr.) 120	ECTS Credits 4
2	Courses a) Introduction to Technology b) Technical Drawing		Course Style Lecture Lab		Language English German	Frequency 2 (SWS) 30 (hr.) 1 (SWS) 15 (hr.)	Self Study (hr.) 30 45	ECTS Credits 2 2
3	<p><b>Learning Outcomes and Competences</b>          After completing the module, students will...</p> <p><b>Remember and Understand</b></p> <ul style="list-style-type: none"> <li>... students have a basic knowledge and understanding of fundamental processes and concepts from different technological fields.</li> <li>... students are familiar with specific technologies that will change over time, depending on what is currently in the industrial focus</li> <li>... understand the basic procedure for creating technical drawings.</li> <li>... demonstrate basic knowledge of technical drawing.</li> <li>... recognize the importance of technical drawing for technical business managers.</li> <li>... understand and explain three-panel projection, dimensions, thread diagrams, sectional views, and indications of surface finishes and tolerances.</li> </ul> <p><b>Use and Transfer</b></p> <ul style="list-style-type: none"> <li>... students understand the construction and functioning of a number of technical devices and machines.</li> <li>... apply the standards for creating technical drawings.</li> <li>... create simple technical drawings in pencil on paper.</li> <li>... analyze simple assembly drawings and draw conclusions from them.</li> <li>... recognize and classify relationships on drawings.</li> </ul> <p><b>Communication and Cooperation</b></p> <ul style="list-style-type: none"> <li>... students are able to express their knowledge in English using the correct technical terminology.</li> <li>... justify the developed solution theoretically and methodically.</li> </ul> <p><b>Scientific Self-Conception / Professionalism</b>          ... Reflect and assess their own abilities (in group comparison)</p>							
4	<p><b>Content</b></p> <p>a) The Introduction to Technology sub-module provides a grounding in the principal areas of technology. The first section gives an introduction to the basic principles of mechanics and thermodynamics including some applications in the automotive industry. The second section deals with the principles of magnetism and electronics leading up to the development of the computer and other modern communication technologies. The third section focuses on the most recent developments in robotics and its use in industrial areas. Topics discussed include: Engineering materials, classifying engineering processes and machines, units of measurement in engineering. Mechanisms like motion and friction, external and internal combustion engines and engine subsystems, electrochemical and fuel cells and other propulsion types, automobile manufacturing, battery-powered electric cars. Principles of electric circuits, function of electronic devices, circuit symbols, understanding electronic diagrams, circuit protection, radio technology, signal modulation, transmission and reception. Computer technology, basic components, memory, recent developments, robotics and its future potential in industry</p> <p>b) Technical drawing: Rules of technical drawing and application in automotive and mechanical engineering.</p> <ul style="list-style-type: none"> <li>Recognize importance of technical drawings as an important communication tool for engineers.</li> <li>Master rules of technical drawing.</li> </ul>							

	<ul style="list-style-type: none"> <li>• Reading of technical drawings.</li> <li>• Independently create simple technical drawings and technical sketches with paper and pencil.</li> </ul>
5	<b>Participation Requirement</b> Recommended: <ul style="list-style-type: none"> <li>• School knowledge in mathematics and physics.</li> <li>• Proficiency in English corresponding to at least level B2 according to the Common European Framework of Reference for Languages</li> </ul>
6	<b>Forms of examination and requirements for the award of credit points</b> Introduction to Technology: 60 minutes written examination The study performance in the subject Technical Drawing consists of an ungraded test (construction drawings and written final test).
7	<b>Module Application</b> Obligatory module in the Bachelor's Program for International Industrial Management (TBB). Fundamentals of Modules 0953 Technology 1, 0956 Technology 2, 0957 Technology 3, 0919 Project.
8	<b>Lecturer / Responsible for the Module</b> Prof. Sarnitz (MV)
9	<b>Literature</b> <b>a) Introduction to Technology</b> <ul style="list-style-type: none"> <li>• An electronic manuscript will be provided.</li> </ul> <b>b) Technical Drawing</b> <ul style="list-style-type: none"> <li>• Hoischen/Hesser</li> </ul> N.N.: Tabellenbuch Metall, Europa-Verlag
10	<b>Last Update</b> 26.10.2019