

## Syllabus

### Course description

<b>Course title</b>	<b>Economics for Engineers</b>
<b>Course code</b>	42171
<b>Scientific sector</b>	ING-IND/35
<b>Degree</b>	Bachelor in Industrial and Mechanical Engineering
<b>Semester</b>	I
<b>Year</b>	II
<b>Academic Year</b>	2019-2020
<b>Credits</b>	6
<b>Modular</b>	No

<b>Total lecturing hours</b>	36
<b>Total lab hours</b>	
<b>Total exercise hours</b>	24
<b>Attendance</b>	Not compulsory
<b>Prerequisites</b>	-
<b>Course page</b>	<a href="http://www.unibz.it/it/sciencetechnology/progs/bachelor/industrial/courses/default.html?year=2">http://www.unibz.it/it/sciencetechnology/progs/bachelor/industrial/courses/default.html?year=2</a>

<b>Specific educational objectives</b>	<p>The course is offered to the curricula "Logistics and Production" and "Automation".</p> <p>The learning objectives are to introduce engineering students in the fundamentals of Business Management, i.e. the organization and functioning of companies. Specifically, the course will deal with the themes of company's objectives and context, financial accounting, investment analysis, and other economic evaluation analyses.</p>
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<b>Lecturer</b>	Guido Orzes
<b>Scientific sector of the lecturer</b>	ING-IND/35
<b>Teaching language</b>	English
<b>Office hours</b>	By appointment
<b>Teaching assistant (if any)</b>	-
<b>Office hours</b>	-

<b>List of topics covered</b>	<p><b>1. The company: objectives and context</b></p> <p>1.1 Terms and definitions</p> <ul style="list-style-type: none"> <li>▪ Basic economical concepts</li> <li>▪ Company, firm, enterprise</li> <li>▪ Classifications of companies</li> <li>▪ Fayol's five elements of administration</li> <li>▪ Value Chain</li> </ul> <p>1.2 Corporate objectives and corporate strategy</p> <ul style="list-style-type: none"> <li>▪ Vision, mission and objectives</li> <li>▪ Porter's generic strategies</li> <li>▪ Strategy tools</li> </ul>
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	<p><b>2. Essentials of financial accounting</b></p> <ul style="list-style-type: none"> <li>▪ Terms and definitions</li> <li>▪ Basic accounting principles</li> <li>▪ Balance sheet and income statement</li> <li>▪ Financial statement preparation</li> <li>▪ Ratio analysis</li> </ul> <p><b>3. Investment analysis</b></p> <ul style="list-style-type: none"> <li>▪ Terms and definitions</li> <li>▪ Repayment plans</li> <li>▪ Actualization and capitalization</li> <li>▪ Investment analysis and evaluation (Discounted Pay-back period, Net present value, Internal rate of return, External rate of return, Benefit-cost ratio)</li> <li>▪ Inflation</li> </ul> <p><b>4. Other economic evaluation analyses</b></p> <ul style="list-style-type: none"> <li>▪ Classification of costs</li> <li>▪ Break-even point</li> <li>▪ Make or buy choices</li> </ul>
<p><b>Teaching format</b></p>	<p>The teaching format is based on frontal lectures, exercises and a game-based business simulation. In addition to a solid theoretical background, special attention will be dedicated to examples, exercises and case studies discussion.</p>
<p><b>Learning outcomes</b></p>	<p><b>Intended Learning Outcomes (ILO)</b></p> <p><u>Knowledge and understanding</u></p> <ol style="list-style-type: none"> <li>1. General knowledge of the various tasks, methods and techniques of financial accounting and investment analysis</li> <li>2. Knowledge of the main the economic and operational factors linked to the strategic choices of the companies and of the main strategy tools</li> </ol> <p><u>Applying knowledge and understanding</u></p> <ol style="list-style-type: none"> <li>3. Ability to evaluate investment initiatives, the economic and financial solidity of economic and financial plans about the launch of new products or the adoption of new business models</li> </ol> <p><u>Knowledge and understanding</u></p> <ol style="list-style-type: none"> <li>4. Basic understanding of management and business administration</li> </ol> <p><u>Applying knowledge and understanding</u></p> <ol style="list-style-type: none"> <li>5. Ability to “virtually” manage a company (game-based business simulation)</li> </ol>

	<p><u>Making judgements</u></p> <p>6. Systems Thinking - overview of the business organization</p> <p>7. Ability to transfer the knowledge and methods learned to real practical applications</p> <p><u>Communication skills</u></p> <p>8. Ability to structure and prepare a presentation describing company strategy and management with business language</p> <p>9. Oral communication skills (business language)</p> <p><u>Ability to learn</u></p> <p>10. Ability to autonomously extend the knowledge acquired during the study course by reading and understanding</p>
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<b>Assessment</b>	<p><b>Formative assessment</b></p> <table border="1"> <thead> <tr> <th>Form</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>In class exercises</td> <td>4 X 30 minutes</td> <td>1, 4</td> </tr> <tr> <td>In class group works</td> <td>2 X 30 minutes</td> <td>2, 3</td> </tr> </tbody> </table> <p><b>Summative assessment</b></p> <table border="1"> <thead> <tr> <th>Form</th> <th>%</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>Written exam – exercises</td> <td>65%</td> <td>3 exercises (1 hour)</td> <td>1, 4</td> </tr> <tr> <td>Written exam – theory</td> <td>25%</td> <td>2-3 open-ended questions of 200 words each (30 minutes)</td> <td>2, 3</td> </tr> <tr> <td>Business Game</td> <td>10%</td> <td>6 hours (in class)</td> <td>1-10</td> </tr> </tbody> </table>	Form	Length /duration	ILOs assessed	In class exercises	4 X 30 minutes	1, 4	In class group works	2 X 30 minutes	2, 3	Form	%	Length /duration	ILOs assessed	Written exam – exercises	65%	3 exercises (1 hour)	1, 4	Written exam – theory	25%	2-3 open-ended questions of 200 words each (30 minutes)	2, 3	Business Game	10%	6 hours (in class)	1-10
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<b>Assessment language</b>	English																									
<b>Evaluation criteria and criteria for awarding marks</b>	<p>The final mark is the sum of the marks of the different parts of the exam. The assessment of the written part is based on ability to solve simple exercises about the topics of the course, clarity of answers, mastery of language (also with respect to teaching language), ability to summarize and establish relationships between topics. The assessment of the business game is based on ability to work in a team and skills of creativity and critical thinking.</p>																									

<b>Required readings</b>	Lecture slides and notes.
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<b>Supplementary readings</b>	Antony R.N., Hawkins D.F., Merchant K.A., "Accounting: Text and Cases", Thirteenth Edition, McGraw-Hill International Edition.
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