

Code.....

Course item: .....

**1. INFORMATION ABOUT THE COURSE****A. Basic information**

Name of course	Technical Drawing
Study level	<i>first degree</i>
Unit running the study programme	<i>Faculty of Management, Department of IT Management</i>
Study programme	<i>Management and Production Engineering</i>
Speciality	
Name of teacher (s) and his academic degree	<i>Mariusz Żółtowski, PhD</i>
Introductory courses	<i>Management</i>
Prerequisites	<i>no prerequisites</i>

**B. Semester/week schedule of classes**

Semester	Lectures	Classes	Laboratories	Project	Seminars	Field exercises	ECTS
summer	10		20				4

**2. EFFECTS OF EDUCATION** (acc. to National Qualifications Framework)

Knowledge	<i>During the course students learn the basic issues associated with the graphics engineering. Performed by students in class drawing exercises are related thematically to the lectures. The course covers the methods for mapping their subject and restitution space elements, geometrical shaping of spatial forms, the general principles of exercise and reading construction drawings, lettering, perspective and axonometry.</i>
Skills	<i>The acquisition of basic skills and knowledge related to engineering graphics, as well as the techniques of graphic papers, which aims to develop spatial imagination and raising the aesthetic sensibilities. Preparing basic workshop to independently perform simple technical drawings, layouts, as well as the preparation of graphical representations of spatial elements.</i>
Competences	<i>After completion of the course the student is active in / to .. willing to .., creative, open to .. conscious, working with ... is capable, organized, etc..</i>

**3. TEACHING METHODS**

*Part of the lecture - multimedia presentations, part of the laboratory - a project drawn by hand and using the software AutoCAD 2011.*

**4. METHODS OF EXAMINATION**

*The pass mark is the presence of the classes (two absences allowed), and the execution of assignments (for each class is performed exercise). The average rating of the work done is the basis for issuance of the final grade.*

*The pass mark for the course is to obtain a positive assessment of a written test.*

**5. SCOPE**

Lectures	<p><b>lectures:</b></p> <ul style="list-style-type: none"> <li>• Introduction. Basic concepts of the theory of spatial mapping on the plane.</li> <li>• Base maps, in particular those elements associated with rectangular projections Monge</li> <li>• Isometric views of the spatial blocks. Basics graphical representation of the structure.</li> <li>• Record graphical form design and writing of the dimensions.</li> <li>• Record structure of typical connections.</li> <li>• Computer record of design features.</li> <li>• Basic principles of computer storage geometric design features.</li> <li>• The use of graphic program AutoCAD in engineering graphics</li> <li>• Solid modeling space using a computer graphics program</li> <li>• Basic AutoCAD objects, their attributes and properties</li> <li>• Modifications created objects, collections display and editing tools AutoCAD</li> <li>• Tools precise drawing and fixtures</li> <li>• Create and edit text objects in AutoCAD</li> <li>• Create layers and manage</li> <li>• Data center design and pallets</li> <li>• Creating tables and templates</li> <li>• The rules for creating and editing systems dimensions</li> </ul> <p>Fundamentals of modeling and modification of objects in 3D space</p>
Classes	<ul style="list-style-type: none"> <li>• Saving design with a low level of detail along with the record of the dimensions (design drawing of the Executive model)</li> <li>• Saving design with a greater level of detail with the use of sections of simple and complex examples, views, and drawing simplification</li> <li>• Record structures with throws axonometric connections separable and inseparable.</li> </ul>

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## 6. LITERATURE

Basic literature	<ul style="list-style-type: none"> <li>• Bernaciński S .: Lettering, School and Pedagogical Publishing House, Warsaw 1985.,</li> <li>• Dobrzański T .: Technical Drawing, Technical and Scientific Publishers, Warsaw 1997.,</li> <li>• Kułakowski J .: Technical Drawing, National Vocational Education Publishing House, Warsaw 1971.,</li> <li>• Mazur J., Tofiluk A .: Documentation Building 1, drawing a construction manual for Technical, Publisher School and Pedagogical SA, Warszawa 2008.,</li> <li>• Parczewski W .: 4 Documentation Construction, Architectural Design, School and Pedagogical Publisher, Warsaw 1988.,</li> <li>• Samujłło H. J .: Technical drawing and handwritten in construction, Arkady, Warszawa 1987.,</li> <li>• The Act of 27 March 2003. for spatial planning and development, Dz.U.03.80.717 as amended. change</li> <li>• The Act of 23 July 2003. On the protection of monuments and care of monuments, Dz.U.03.162.1568 as amended. changes,</li> <li>• PN-EN ISO 128-20: 2002 Technical drawings. General principles of presentation. Part 20: Basic requirements on the line,</li> <li>• PN-EN ISO 5456-1: 2002 Technical drawings. Projection methods. Part 1:</li> </ul>
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	<p>General Provisions,</p> <ul style="list-style-type: none"> <li>• PN-B-01025: 2004 Drawing construction. Symbols on the architectural drawings and construction.</li> <li>• PN-B-01027: 2002 Drawing construction. The logos used in projects plot or land development</li> <li>• PN-N-01602: 1997 Technical Documentation. Design and computer aided drafting. Terminology.</li> </ul>
Supplementary literature	<ul style="list-style-type: none"> <li>• Miśniakiewicz E., W. Skowronski, Technical construction. Arkady 2008</li> <li>• Mydra G .: GIS or map on your computer</li> <li>• Roliński F .: perspective freehand. Theory and practice. Arkady. Warsaw 1962</li> </ul> <p>Romaszkiewicz - T. Bialas, practical perspective for architects, Publishing House of Warsaw University of Technology, Wroclaw 2006</p>