

Course title: Graphics and documentation for engineers

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
131003167	Mandatory	III	3.5	2+1

Study program:
Basic academic studies, ELECTRICAL ENGINEERING, study program: Power systems and Control (studies last for 6 semesters, 180 ECTS credits).

Prerequisites:
No prerequisites required.

Course aims:
Through this course students are introduced with project making principles and project types, as well as with the making of the technical documentation. At the exercise lessons, students are drawing in the orthogonal projection and in axonometry. Drawings are making manually and on the computers.

Teacher(s) and assistant(s):
PhD Zoran Perović - teacher,
PhD Darko Bajić - assistant,
MSc Radoslav Tomović – assistant.

Teaching method:
Lectures, exercises in the standard classroom for drawing and exercises in the computer classroom / laboratory. Studying, individual making of the graphics at the lessons, and doing home exercises. Consultations.

Course synopsis:

Preliminary weeks	Preparation and semester enrolment.
I week	Introducing. Project making types.
II week	Orthogonal projection of the point and object. European and American principles. Special profile.
III week	Formats and proportion. Technical documentation. Header and texture.
IV week	Line types. Technical letter. Intersections. Total intersection and half-intersection.
V week	Partial intersection. Local intersection. Intersection of the more than one element. Arbitrary plane of intersection.
VI week	Marking.
VII week	Free week
VIII week	First test
IX week	Axonometry, isometry, dimetry.
X week	The surface quality denoting.
XI week	Materials and material denoting.
XII week	Second test
XIII week	Tolerance.
XIV week	System of the standard tolerances.
XV week	Third test
XVI week	Final exam
Final week	Administrative procedures.
XVIII-XXI week	Additional lessons, correction of the final exam and administrative procedures.

STUDENT WORKLOAD

<u>per week</u>	<u>per semester</u>
<p>3.5 credits x 40/30 = 4 hours and 40 minutes</p> <p>Working hours structure:</p> <p style="padding-left: 20px;">1 hours for teaching</p> <p style="padding-left: 20px;">2 hour for exercises</p> <p style="padding-left: 20px;">1 hour and 40 minutes for individual work, including home exercises and consultations.</p>	<p>Teaching and the final exam: (4 h 40 min.) x 16 = 74 h 40 min.</p> <p>Necessary preparation (before semester): 2 x (4 h 40 min.) = 9 h 20 min.</p> <p>Total work hours for the course: 3.5 x 30 hours = 105 hours</p> <p>Additional hours for preparing correction of the final exam, including the exam taking: up to 30 hours (the rest of the time from the first two items, up to the total work hours for the course, 150 hours).</p> <p>Work hours structure:</p> <p>74 h 40 min. (lectures) + 9 h 20 min. (preparation) + 21 hours (additional work)</p>

Lessons attendance is mandatory for students, as well as graphics drawing (at the lessons), doing home exercises and all tests.

Literature: T. Pantelić: Tehničko crtanje
D. Vitas: Osnovi mašinskih konstrukcija I
G. Omura: Auto CAD 2002

The forms of knowledge testing and grading:

- Lessons attendance carries 4 points (2 for teaching lessons, and 2 for exercise lessons).
- 5 graphics works carries 10 points (2 points for each of the graphics work)
- Each test carries 12 points (36 points total).
- Final exam carries 50 points.

Student gets the passing grade by collecting 51 points at least.

Special remarks for the course: The teaching is organized for all students at the same time, and laboratory exercises for groups with 15 students.

Teacher(s) who provided the information: PhD Zoran Perović

Remark: