

Study rules for the following courses:
Electrodynamics (Bachelor UNI)
Antennas and propagation (Master UNI)
Optical communications (Master UNI)
High-frequency technology (Master UNI)

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Each course has lectures and laboratory experiments. The lectures are public according to the valid university rules, everyone can attend and the attendance is not compulsory. Laboratory experiments are not public according to the same university rules, they are intended for regular students only and the attendance is compulsory. Everyone else can attend laboratory experiments only with the permission of the responsible teacher.

The teacher responsible for the lectures is called a professor. The teacher responsible for the laboratory experiments is called an assistant. Both the professor and the assistant may be the same person. Additional teachers: professors, assistants, laboratory staff, students may help during the lectures and laboratory experiments.

The final grade of each individual course includes three components:

- 1) 50% of the grade is obtained from several unannounced written midterm exams held during the lectures.
- 2) 50% of the grade is obtained from the reports of the laboratory experiments.
- 3) Volunteer non-compulsory activities may improve the final grade, but may not correct a negative final grade.

An oral exam is not compulsory. An oral exam can be used to correct a negative grade or improve the final grade.

A positive final grade requires an >50% average grade of the midterm exams and an >50% grade of the laboratory reports. A negative final grade can be corrected with an oral exam (regularly registered in the system E-šstudent). Such an oral exam should last at least two hours to be comparable to the many midterm written exams and laboratory reports.

The lectures are in Slovenian language. Oral and written communication with foreign students is in English (USA version) or another foreign language understood by all of the people involved. The rules for the foreign students are the same as those for the domestic students. Foreign students attend the same midterm exams, prepare the same laboratory reports and may take part in volunteer non-compulsory activities.

Written exams

During the lecture the teacher checks the knowledge of his students through a number of written midterm exams. Each problem of a midterm exam has four possible answers. Circling the correct answer only brings one point. Any other combination of circling brings zero points. There are no negative points.

The results of the midterm exams are evaluated immediately. The result of a midterm exam is communicated to the student using the email address as written on the exam sheet by the student.

The final grade of the midterm exams spans between 0% and 100%. One quarter of available

points is a totally random result and is assigned a grade of 0%. An agreed number of points, usually the best result in class, is assigned a grade of 100%.

An absent student receives 0 points at a midterm exam. The written midterm exams can be repeated the following school year.

Laboratory experiments

Students should attend the laboratory experiments prepared by studying the corresponding instructions at home in advance. The teacher may reject an unprepared student, since the latter may endanger himself, his mates and the laboratory equipment. A rejected or absent student is assigned a grade of 0 for the corresponding missed laboratory experiment.

Students are required to assemble the various experiments on their own by placing and connecting different equipment in the laboratory: The teacher checks the presence of the students, helps them assembling the experiments, checks the assembly and operation of the experiments.

Students prepare written reports of the corresponding experiments within one week after the laboratory exercises. The teacher checks the reports within one week after receiving them. Each experiment report is graded between 0 and 10. At the end of the course the teacher computes the average grade rounded to two decimal places.

The report is evaluated according to engineering practice. The main components of the work of an engineer are:

1) A detailed block diagram (a manual sketch is recommended) of the layout, connections and settings of the various test equipment used including a list of all hardware. For example: accurate distances between antennas and from different obstacles, lengths of critical coaxial cables and optical fibers, frequencies, wavelengths, and signal power levels, manufacturers and types of the test equipment and description of the test items.

2) Correctly filled tables and graphs that represent the results of an experiment. Suitable templates for the tables and graphs are included in the instructions for the laboratory experiments.

Additionally, comments written on the block diagram, tables and graphs are also graded. For example: signal reflection from an obstacle, small oscillation of a result due to impedance mismatch and similar. Sensible comments improve the grade. Copy-paste of the instructions, repeating the same message and general bullshit degrades the grade.

Since everything can not be remembered, photos of the experiments are very useful while preparing a report. It is therefore advised that students take photos (also with a smart phone) of the whole experiment setup, of the different equipment settings and of the measured items.

Students that already had similar experiments in previous courses (like VSP) may use parts of the reports prepared for those courses. All reports are graded, since the criteria for grading experiments at UNI courses are more demanding than those at VSP.

An engineer is also asked to perform his work efficiently and reliably at a reasonable cost. The use of open-source software tools (Linux, LibreOffice, OpenOffice, Python, Octave and similar) during the experiments and for the preparation of the reports is graded positive. The use of unreliable licensed software tools everywhere there exist equivalent or better open-source alternatives degrades the final grade even when compared to hand computation and drawing.

The use of student or university software licenses is not a valid excuse, since these are just cheap advertising of license merchants that may represent considerable expenses for the industry.

Special caution is required while using software for plotting graphs! Such software frequently interpolates the curves between measured points in a way that does not correspond to the physical background of the experiment. Such improper software usually corrupts the result of an otherwise correct measurement.

Non-compulsory activities include:

1) Participation on volunteer courses:

- building a simple VHF radio transmitter (Electrodynamics)
- building a WiFi antenna (Antennas and propagation)
- building a IR remote control (Optical communications)
- building a radio receiver (High-frequency technology)
- building and programming microcontrollers (while preparing the master thesis)

Each successful participation increments a positive final grade by one at the corresponding course.

2) Searching and documenting errors in the literature used in the courses. Each newly found and properly documented error increments a positive final grade by one at the corresponding course.

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