

Course Logistics

442.003 Digital Signal Processing, Laboratory
Winter Term 2023/24

Signal Processing and Speech Communication Laboratory
www.spsc.tugraz.at

Last updated: October 17, 2023

1 Course Webpage

Laboratory handouts (such as this document), source code, and additional information are available [here](#). Contact information and office hours of the supervisors can be found on [TU Graz Online](#).

2 Schedule

This course consists of an introductory meeting and six lab sessions. You can see the schedule including the content of the sessions in table below.

Date	Content	Supervisor(s)
Tue, 24.10.2023 2pm - 3pm	<i>Kickoff Meeting</i> Online via WebEx	Christian Toth
Thu, 07.11.2023 2pm - 6pm	<i>Fundamentals of Digital Signal Processing</i>	Nicolai Halaczinsky
Tue, 14.11.2023 2pm - 6pm	<i>Discrete Fourier Transform</i>	Christian Toth
Thu, 16.11.2023 2pm - 6pm	<i>Digital Filter Implementation 1</i>	Julian Linke
Tue, 21.11.2023 2pm - 6pm	<i>Digital Filter Implementation 2</i>	Nicolai Halaczinsky
Thu, 23.11.2023 2pm - 6pm	<i>Selected Applications</i>	Julian Linke
Tue, 28.11.2023 2pm - 6pm	<i>Multirate Signal Processing</i>	Franz Pernkopf

3 Rooms

We have two rooms available which are located in Inffeldgasse 16, ground floor. The room codes are IEEG172 and IEEG180, formerly known as ‘STUD.EDV-RAUM 1’ and ‘STUD.EDV-RAUM 2’.

In each room we have six workplaces, which are equipped with a PC, DSP board, oscilloscope, signal generator, and headphones. On a workplace the lab experiments are accomplished in groups of two or three students.

4 Grading

The grading is based on three things: *(i)* involvement in executing the experiments, *(ii)* ability to answer questions, and *(iii)* the quality of your report. It is recommended that you prepare well for the laboratory (handouts, textbooks listed on our webpage, lecture material).

Laboratory Report

For each session you have to write a report and deliver it **up to one week** after the session via e-mail as .pdf to the respective supervisor. Late submissions will not be considered for grading. For each group of participants one common report is sufficient. The report should preferably be written using L^AT_EX, however MS Word or handwritten (readability!!) are also possible. You can either write in German or English. A good report should include

- Theoretical background and expected experiment outcome
- Description of the experimental setup
- Experimental results (tables, plots, sketches, oscilloscope screenshots, etc.)
- Discussion of the questions raised in the laboratory handouts
- Conclusions, agreement/disagreement of your results with theory, interpretation, potential weaknesses, ...

for each experiment you conduct during the lab. Note that your grade depends on the **quality of your discussions**, not for the length of your report.