Signal Processing 1TE651 2018
Assignments and Projects
– General Information –

This document provides further information about the assignment module and the project module. Please also see the Course Description document on Student Portal.

1 Overview

- **Assignment Module**

  Assignment module consists of five assignments done by groups of 1-2. Assignment submissions are first evaluated based on written reports and/or computer code. Supplementations may require an oral exam together with the revision of the submitted material. Each assignment typically focuses on one or two intended learning outcomes of the course. Each assignment is assigned a Pass or Fail grade. One must pass at least four of the assignments in order to pass this module.

- **Project Module**

  - If you are not a PhD student, there is one project to be done by groups of 1-2. Project is evaluated based on a written report, computer code and an oral exam. The project is assigned a Pass or Fail grade.

  - If you are a PhD student, please talk with the instructor.

- The assignment and the project modules require both analytical work and computer programming.

- **Each assignment/project can be supplemented only once and this should be done within its supplementation deadline.** The supplementation deadline will be 7-10 days after the announcement of the grades for that assignment/project. Exact date will be announced during the announcement of the grades.

- **If a passing grade is not obtained for the assignment module or project module of the course with the original submissions or after the supplementations, that module has to be redone at the next time the course is given.** Unless there are special reasons, such as an accident, or sudden illness, there will be no other examination

opportunities for these modules until the next time the course is given. It is required that you inform the teacher about these situations as soon as possible and arrange a supplementation. The supplementation will occur before the first written re-exams of the course. Note that this also means that if you need to get credits for financial aid etc, you must submit both your assignments/projects and appropriate supplementations on time and also participate at the oral exams on time.

2   Consultation sessions

Consultation sessions for the assignments/project before their original deadlines will be arranged. It is highly recommended that you attend these.   Due to limited resources, each group will be able to have a limited time with the course staff. Hence, it is imperative that you come to these hours prepared. The course staff will be able to help you more if you can clearly identify what you need help on.

3   Ownership of the material

Aside from the computer code snippets provided by the course staff in the student portal under this academic year, any material that has been submitted for grading must be created and written by the student(s) whose grades will be determined with that content. This content includes, for example, assignment/project reports including hand written or typeset solutions and calculations, and computer codes. **To pass the corresponding module, each student must be able to explain and produce all the relevant content on his/her own, including all the computer code, any calculations, analytical developments and written discussions whenever applicable.** Examples of what you must be able to do are provided in Section 8.

4   Oral Exams

The oral exam for the project module is mandatory for all participants of the course. For assignments, oral exams is not a part of original submissions but may be required for supplementation. During the oral exams, the course staff and the participants will discuss the relevant tasks. The course staff will have the opportunity to evaluate the level of the understanding by the course participants and the course participants will have the opportunity to ask questions to learn more. Please see Section 3 for details to see what you should be able to do in order to pass.

Note that you may be instructed to take an oral exam as a supplementation if there are inconsistencies in the submitted material and/or similarities between your submitted material and other material that may be available to you (for instance material submitted to this and past versions of this course by the others and material on the web) and hence the submitted material is concluded to provide insufficient evidence for the knowledge/skills required in Section 3.

5 Submission Format

- All relevant material must be uploaded through Student Portal. No material on paper or by e-mail will be accepted.

  - Assignments: For assignment questions that require analytical work, you are allowed to upload scanned versions of your hand written solutions. These scanned files must be in pdf format. Please note that for analytical developments, we prefer this format to files created with typesetting solutions, including '.doc' files and latex generated pdf files. This is due to fact that such handwritten solutions tend to provide more details and hence we can follow your line of reasoning more easily. This allows us to better determine the misunderstandings and provide feedback, and also increases your chances of getting full credits for your work.
  - Project: Project reports must be properly typeset and uploaded in pdf format. No handwritten submissions are allowed.

- If you need to do computer programming for an assignment/project, the source files (Matlab m-files) must be uploaded. The submitted files must contain all functions that is necessary so that the course staff will be able to run your code. The codes must be commented appropriately. The files must be uploaded in two formats:

  - Matlab m-files: Matlab m-files will be run by the code staff to evaluate your solutions.
  - Pdf files created by Matlab "publish" feature: This feature can be invoked from the command line using `publish('mymfile','pdf')`, where mymfile is the name of the m-file and 'pdf' specifies the extension. These files must be uploaded one by one without compressing them.

- If you fail to observe these rules about submission, your submission may get a grade of Fail without any further evaluation.

6 Academic Honesty

Please read the rules presented in this document and Uppsala University rules for academic honesty and plagiarism. If you have any questions about the rules, you are always welcome to consult your teacher.

7 Other

- All submitted material must include the group number.

- All assignments are done with the same group. You can do the project with a different group.

- Whenever applicable, make sure to clearly justify the steps in your solutions. Answers without proper justification, even if they are correct, will not get full credits and may not get any credits at all.

- If you find yourself stuck on a particular aspect of a problem or a finding you have, provide as much detail as possible about what you are thinking. If you think there is an ambiguity, explicitly state your assumptions and proceed.

- When you are asked participate in an oral exam, you must book a suitable time with the course staff as instructed and come to these meetings. Unless there are special reasons, such as an accident, or illness, or prior arrangements confirmed by the course staff, you will get a grade of Fail if you do not book a time with the course staff as instructed or do not show up for the arranged meeting. For instance, if one fails to book a meeting for the oral exam for an assignment supplementation, one gets a grade of Fail. Since there is only one supplementation and that opportunity is wasted, one fails the assignment.

8 Appendix

This section provides a non-exhaustive list of examples of what you must be able to do on your own in order to pass an oral exam:

   I Explain and justify different steps in the submitted work including analytical developments, numerical calculations, plots, parameter choices, written discussions and computer code

  II Modify the submitted code to implement small modifications such as changing the value of a parameter

 III Modify the submitted analytical developments and numerical calculations to incorporate small modifications in the problem set-up

  IV Answer the relevant analytical/numerical questions on the assignment/project and explain your reasoning for different steps

   V Implement the relevant functionalities on the assignment/project on a computer

In all of these tasks, the relevant lecture notes and the computer code snippets that are provided by the course staff on Student Portal can be used for reference. During an oral exam, no other material will be allowed. During an oral exam, the tasks must be completed in a reasonable time depending on the task and its significance in the assignment/project, for instance changing a central parameter of an algorithm in your submitted code must not take more than a few minutes.

In some of the cases, these tasks can be performed using different methods or following different steps, such as Item IV and Item V. For these cases, you do not need to reproduce the exact same solution in your submissions; it is the ability to find the answer or to implement the functionality that matters.