S&C-RAM: How-to

This document is for students studying **Systems and Control** with **Robotics and Mechatronics specialisation**, or **S&C-RAM**. It describes some important points with regards to your courselist, internship, and graduation.

Courselist

Choosing your courses: Fill in the basic information (name, student number, etc) on the MSc S&C intake form (Setting up). Then, start by filling in the compulsory courses, taking special care of the note on "Engineering System Dynamics". Complete the form, making sure you reach exactly 120 EC (excl. *additional courses*). Then, get your course list approved:

- Get it approved by the programme mentor of the RAM specialization: intake-ram@utwente.nl
- Send it to the bureau educational affairs (BOZ): boz-sc@utwente.nl
- When you change your electives, have the new list approved *immediately*.

Do this within the first 6 months! Doing this too late may cause delays with your graduation of the planning of your thesis presentation.

Where you can (not) do your final project

The internship and graduation project have very different learning goals, which in turn leads to different requirements:

- **Internship**: The goal of the internship is to obtain practical experience, in a professional environment in an employee-like role, different from the academic university environment. Hence, it can be done anywhere, *except* the UT. It is *not* possible to replace it by coursework.
- **MSc final project**: The goal of the final project is doing scientific research, *at the RaM research group*, related to our scientific projects.

Therefore, you can *not* graduate at a company. Do *not* ask for exceptions; we can only apply a single rule. The reason for this is that we as a group are responsible for the scientific quality of the process and your work, and that simply cannot be guaranteed if you are doing your thesis elsewhere.

Final (thesis) project

As student of the MSc programme Systems and Control with Robotics and Mechatronics specialisation, you have **three options (research chairs) for graduation**:

- Robotics and Mechatronics (RaM)
- MS3 department: Applied Mechanics and Data Analysis (MS3-AMDA)
- MS3 department: Precision Engineering (MS3-PE)

To graduate at either RaM or one of the two MS3 chairs, you have **different specialisation-linked compulsory courses** that need to be included in your programme:

For graduating with RaM, include at least 2 of the following courses as electives:

- Systems Engineering (191211080)
- Transducers Science (201400427)
- Image Processing and Computer Vision (191210910)
- Modern Robotics (191211060)
- Optimal Estimation in Dynamic Systems (191210920)
- Control for UAVs (201700173)
- Real-Time software development (191211090)
- Tele-Interaction in Robotics (201800225)

Have a look at the RaM website Final projects page and list of assignments to find an assignment that

suits your expertise and interest.

For graduating with MS3-AMDA or MS3-PE, include at least 2 of the following courses as electives:

- Learning and adaptive control (202000256)
- Flexible multibody dynamics (201900037)
- Machine Learning in Engineering (201900097)
- Robust Control (191560671)

See the S&C website for details.

When to contact the programme mentor

You **can** contact the programme mentor for:

- Advice/questions regarding your course package (still, read the resources below!).
- Getting your course list approved.

You **should not** contact the programme mentor for:

- Questions which are clearly answered in this document or the resources listed below.
- Internship assignments: Contact the EEMCS internship office.
- Graduation assignments: See resources below.

Useful resources

S&C-RAM

- S&C programme
- Course lists
- Setting up
- Internship

General

- EEMCS internship office
- RaM website
- RaM website: Robotics and Mechatronics tracks
- RaM website: Final projects at RAM
- RaM website: Final project assignments
- MS3 department