UNIVERSITY OF TWENTE.

Mastertrack
Molecules and Materials

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Master Chemical Engineering

Three tracks:

- Molecules & Materials (M&M)
- Process Technology (PT)
- Water Technology (WT)

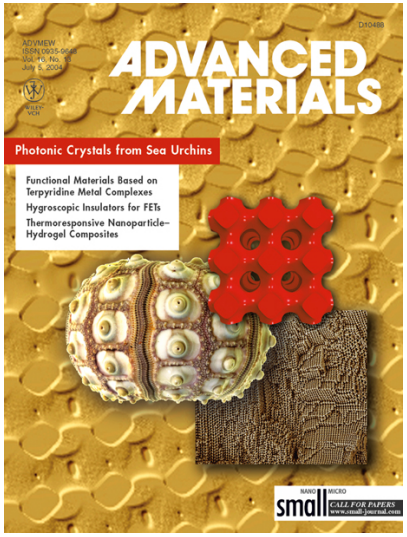
  location: Leeuwarden at Wetsus

Admission Requirements

- P-diploma and
- Min. 150 ECTS Bachelor courses finished

What: Advanced Materials

- Nano
  - Tubes, particles, rods, lithography, porous
- Super/supra
  - Critical, hydrophobic, molecular
- Bio
  - Engineering, materials
- Micro
  - Patterning, structure



Structure MM track

5 Compulsory courses
Total **25 ECTS**

Project
Total **10 ECTS**

4 electional courses

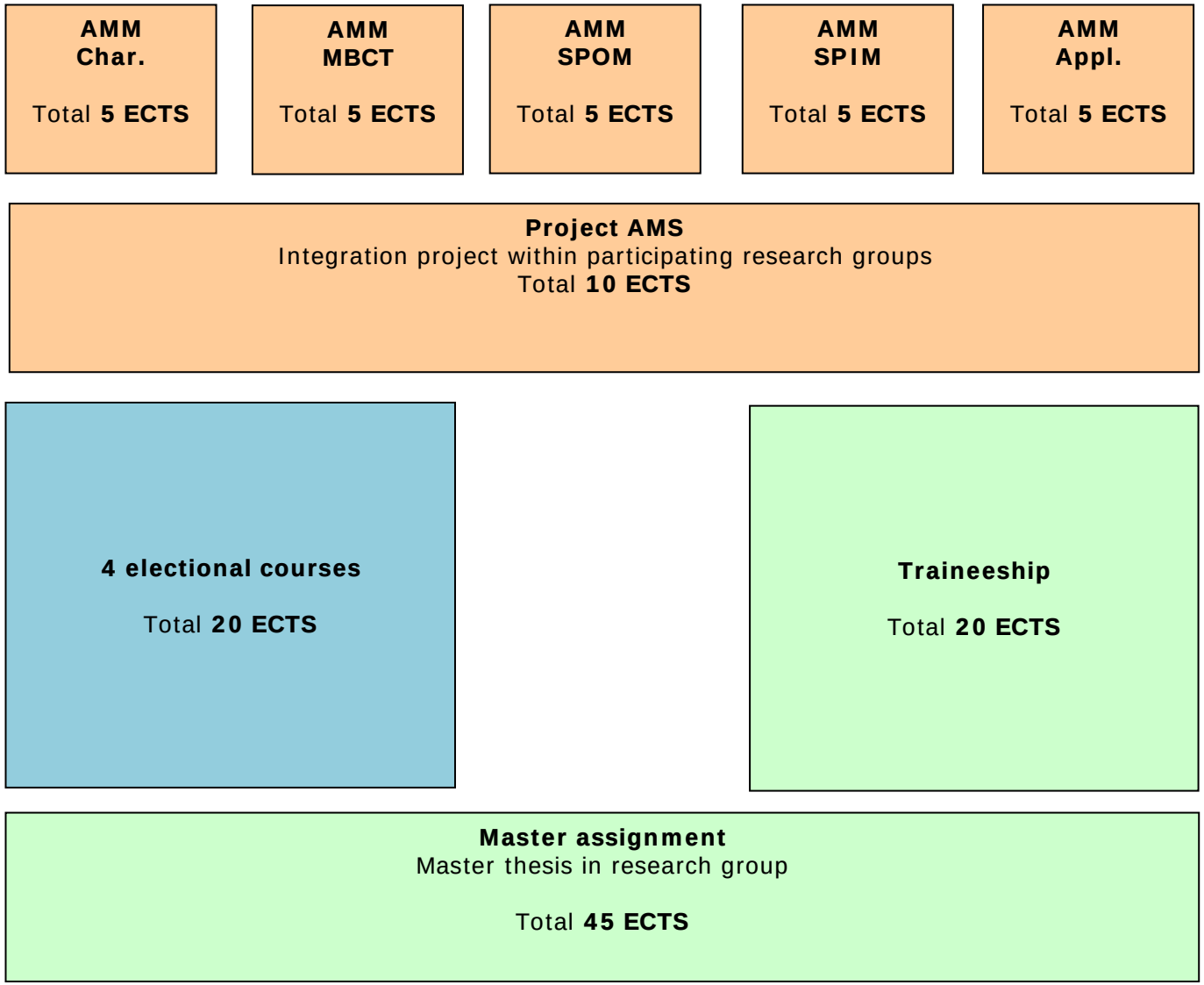
Total **20 ECTS**

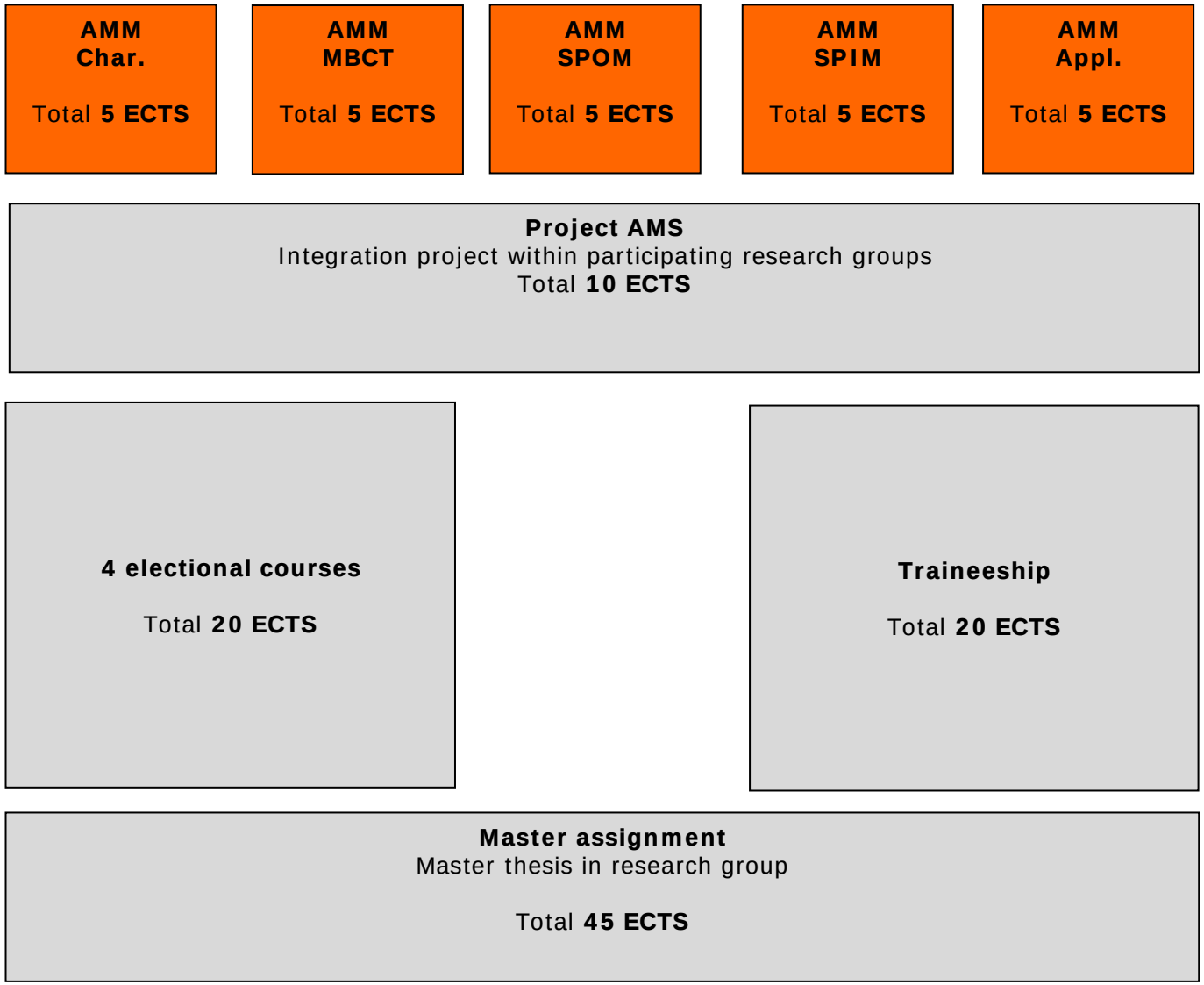
Traineeship

Total **20 ECTS**

Master assignment
Master thesis in research group
Total **45 ECTS**

General structure track

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Total 5 ECTS
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MBCT
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SPOM
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AMM
Appl.
Total 5 ECTS
Project AMS
Integration project within participating research groups
Total 10 ECTS
4 electional courses
Total 20 ECTS
Traineeship
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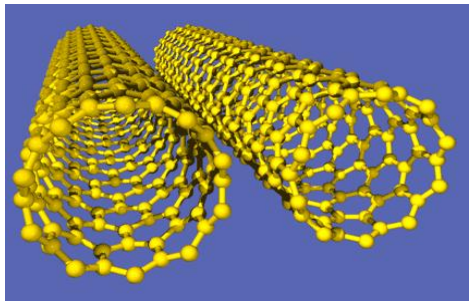
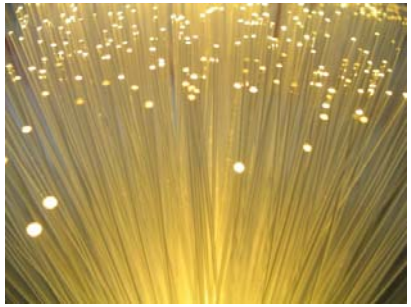
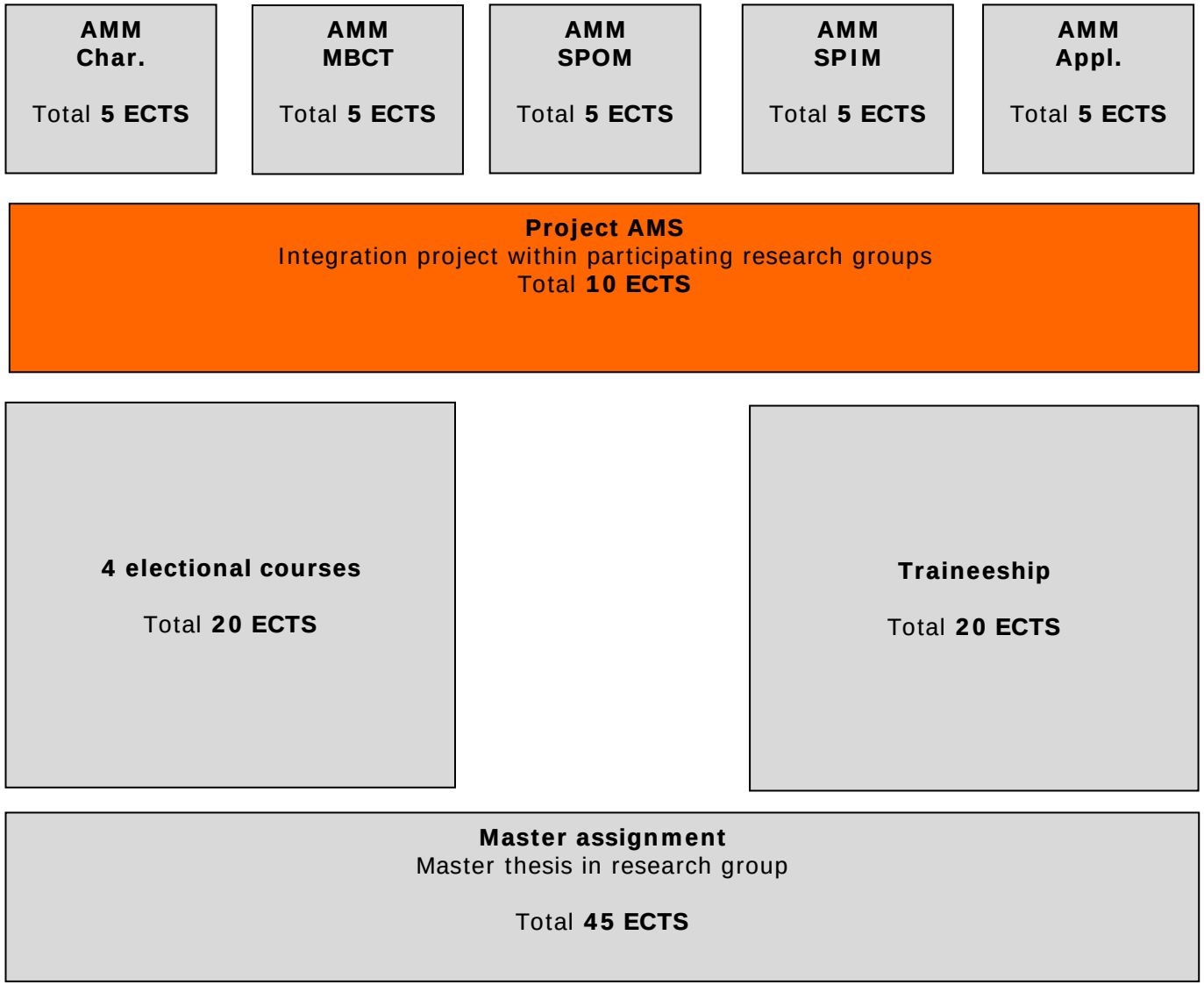
Master assignment
Master thesis in research group
Total 45 ECTS

AMM series:

- <u>Compulsory courses:</u>
- AMM – Characterization (370001) 5 EC
- AMM – Molecular and biomolecular chemistry and technology (370002) 5 EC
- AMM – Organic materials science (370003) 5 EC
- AMM – Inorganic materials science (370004) 5 EC
- AMM – Applications (370006) 5 EC



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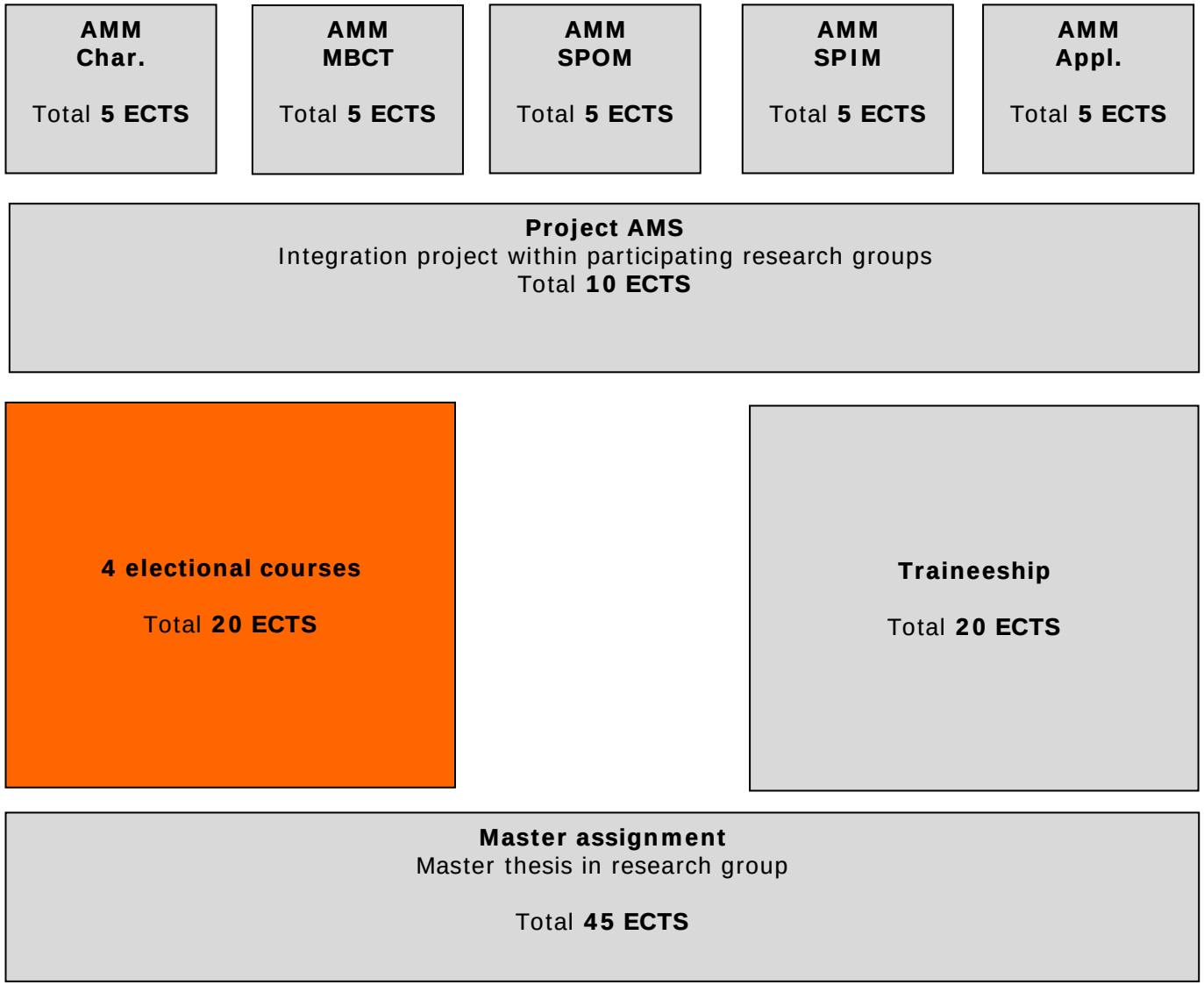
Project AMS

- Integrating project within 3rd and 4th quarter (organic and inorganic resp.)
  - Synthesis, Characterization, Properties, Application
- Strong practical orientation
- Experiments performed at participating groups
- 3rd quarter, Organic (Hempenius)
- 4th quarter, Inorganic (Koster)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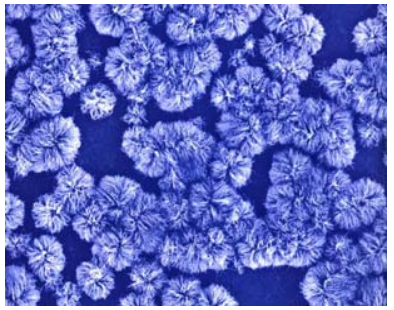
Electional courses

- A Capita Selecta course within the Master's assignment group
  5 EC
  - consult with the research group
- A Capita Selecta course with another M&M-track
  5 EC
- At least 10 EC elective courses
  10 EC
  - consultation with the research group



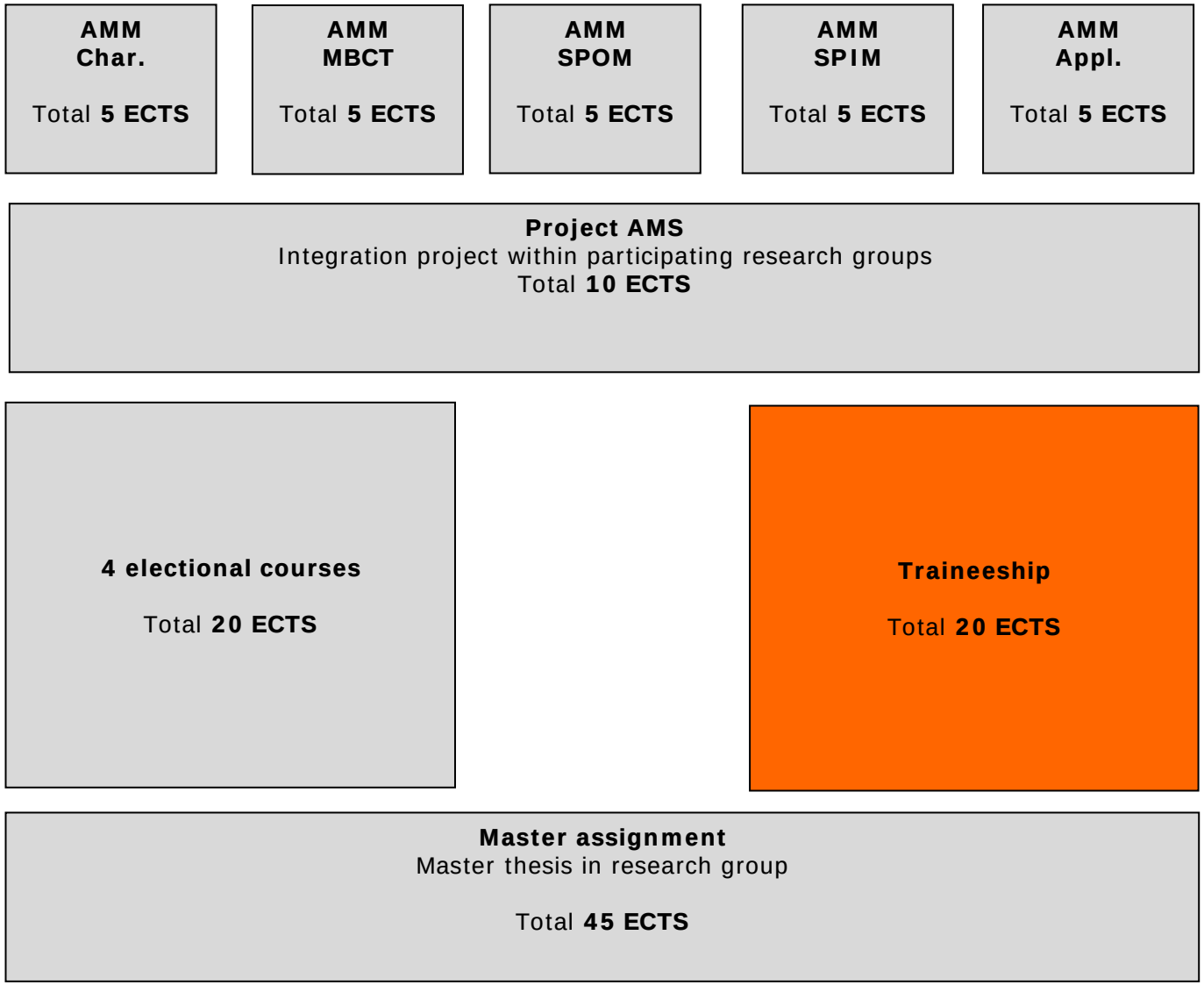
- See page 71,72 program guide

1st year

Q1	Q2	Q3	Q4
AMM Characterization (370001), 5 EC	AMM Structure & Properties Organic Materials (370003), 5 EC	AMM Structure & properties Inorganic materials (370004), 5 EC	AMM Applications (370006), 5 EC
AMM Molecular and Biomolecular CT (370002), 5 EC	Controlled dug and gene delivery (374001), 5 EC	AMM Project Organic Materials (370005), 5 EC	AMM Project Inorganic Materials & Molecular S&T (370007), 5 EC
Colloids and Interfaces (373506), 5 EC	Biomedical membrane applications (373504), 5 EC	Biomaterials, mat. For hard tissue replacements (373702), 5 EC	Physical organic chemistry (377502), 5 EC
Biomedical Materials Engineering I (374002), 5 EC		Corrosion and corrosion resistance (377006), 5 EC	Polymer Physics (373006), 5 EC
			Molecule Spectrometry (376003), 5 EC

Not Scheduled

CS MNF (377500), 5 EC	CS SMCT (376000), 5 EC	CS PBM / BMC (374x00), 5 EC	Master, compulsory with prior knowledge
CS MTP (373000), 5 EC	CS IMS (377000), 5 EC		Master, compulsory
			elective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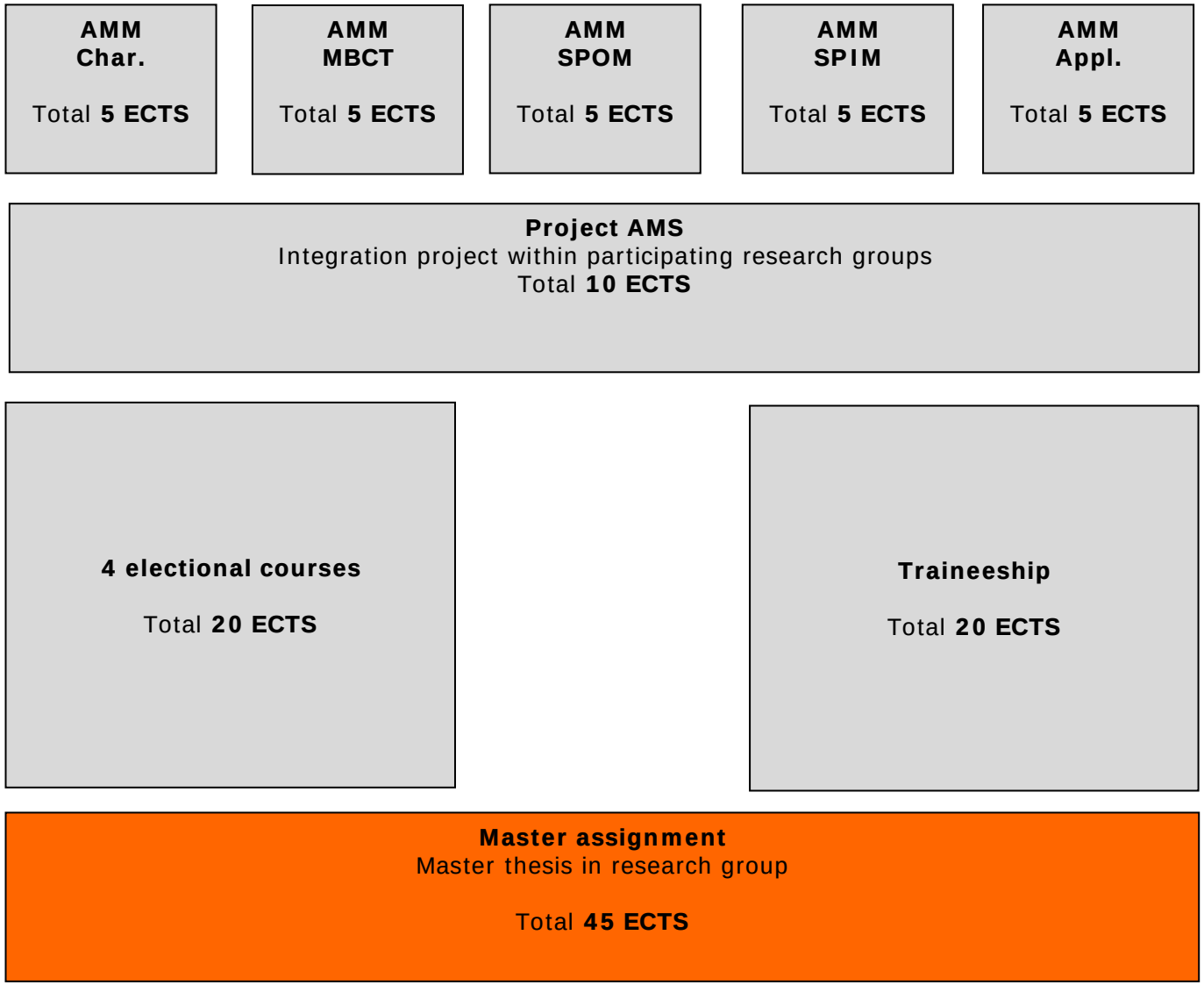
Traineeship

Ing A. (Betty) Folkers
Email: a.folkers@tnw.utwente.nl
Room: Horsttoren level 7 -> 6
Phone: (053 489) 2772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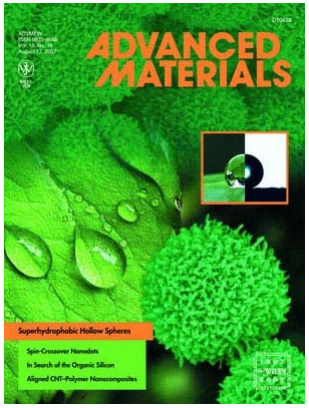
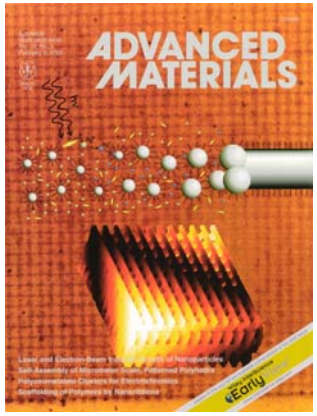
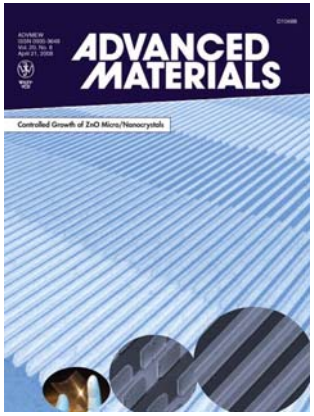
Master assignment

- Once chosen, discuss optional courses
- Assignment ~7 months
- Supervisor from group (PhD student or staff)



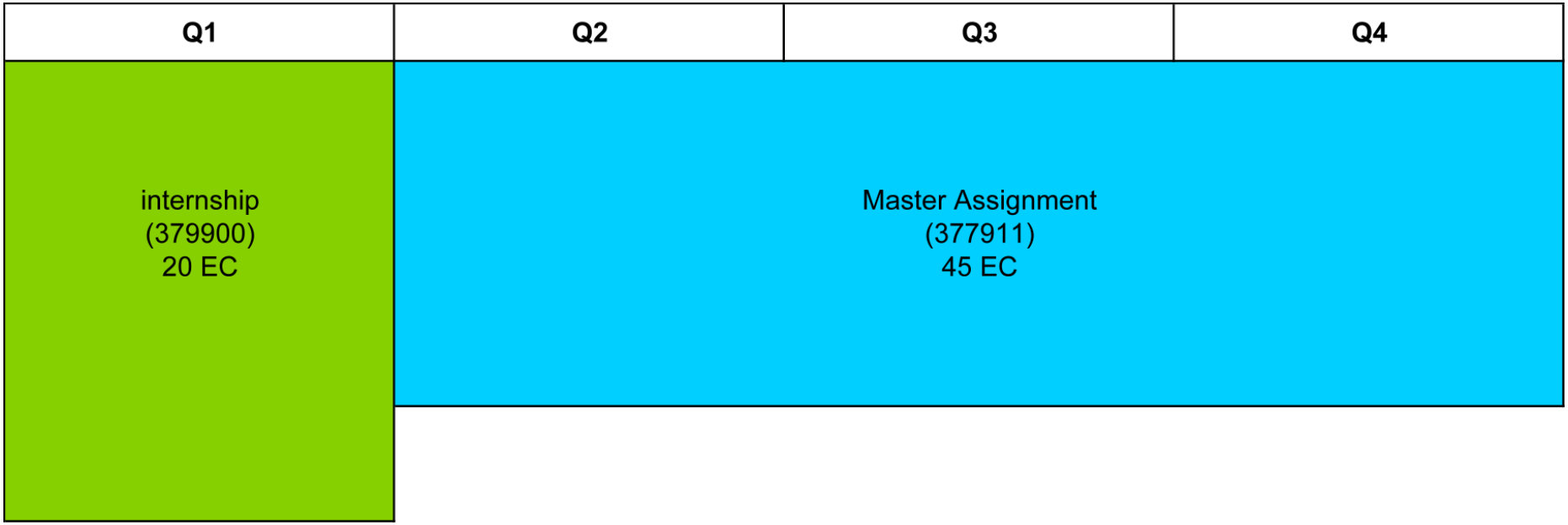




Master assignment

- 2 grades
  - Research performance (problem analysis, experimental, result analysis)
  - Report, presentation, general (e.g. independency)

2nd year


Q1
Q2
Q3
Q4
internship
(379900)
20 EC
Master Assignment
(377911)
45 EC

http://www.tnw.utwente.nl/che/

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