

UNIVERSITY OF TWENTE.

# Mastertrack Molecules and Materials

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Meander 327

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# Master Chemical Engineering

Three tracks:

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

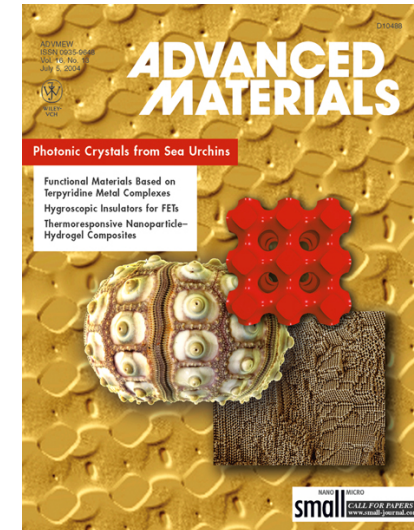
location: Leeuwarden at Wetsus

# 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**

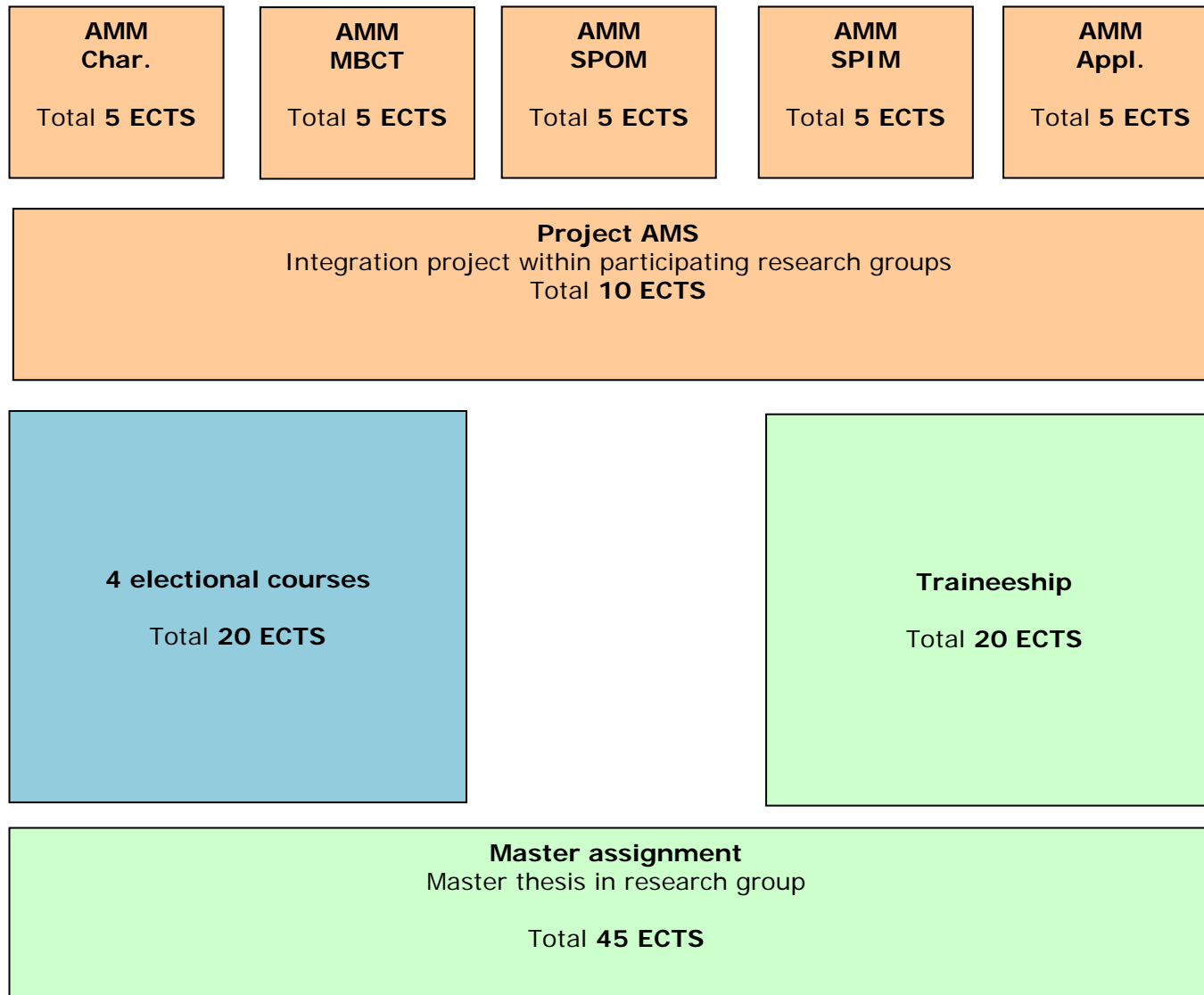
**Project**  
Total **10 ECTS**

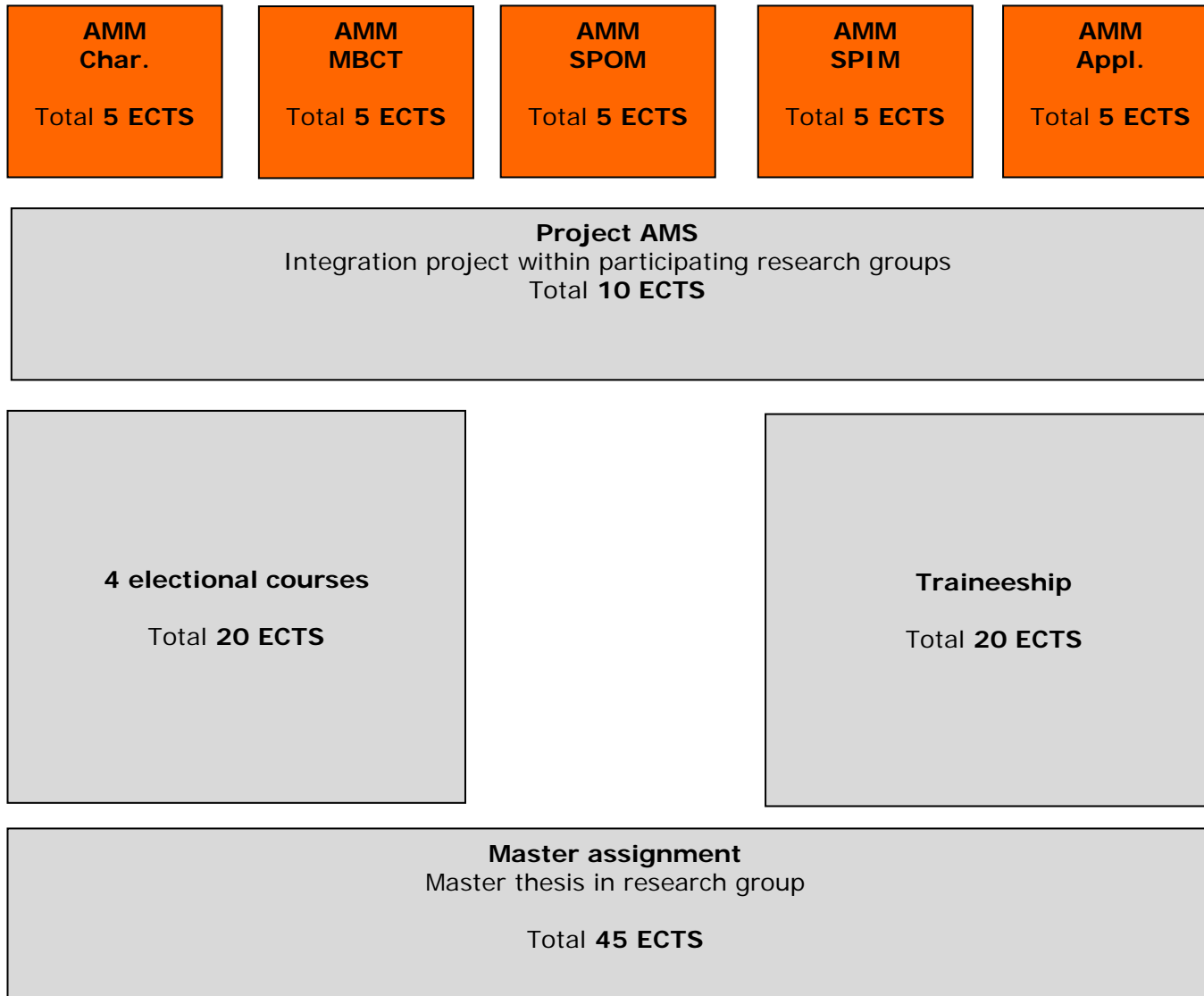
**4 electional courses**  
Total **20 ECTS**

**Traineeship**  
Total **20 ECTS**

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

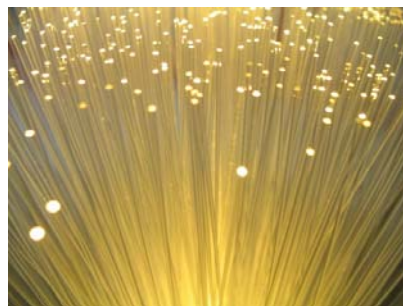
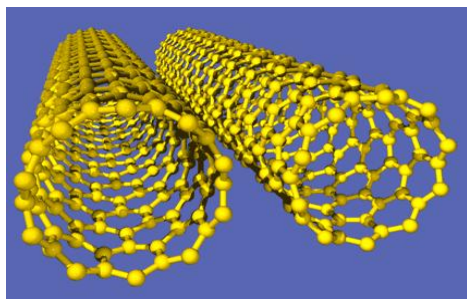
# General structure track



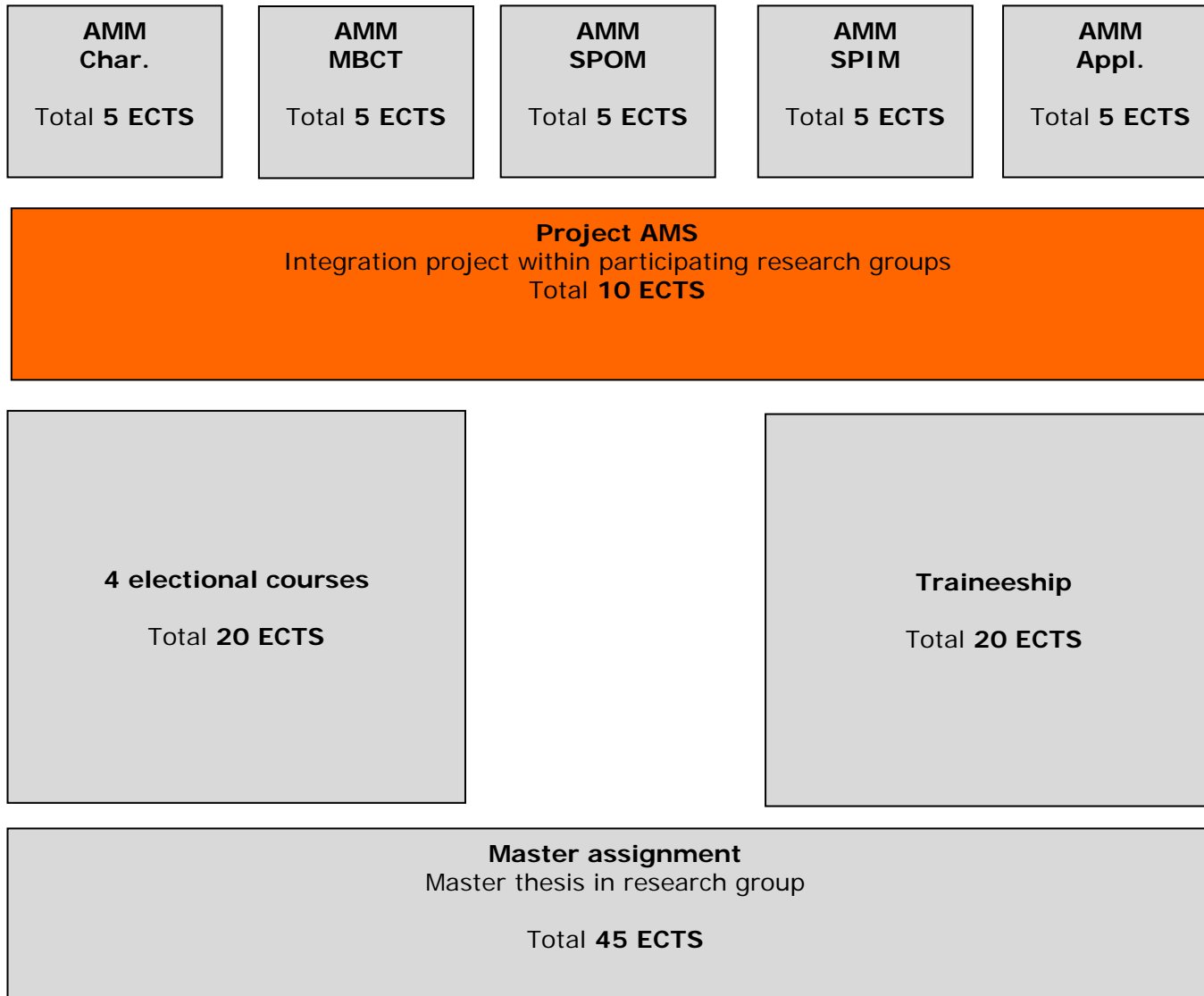


## AMM series:

- Compulsory courses:
- 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

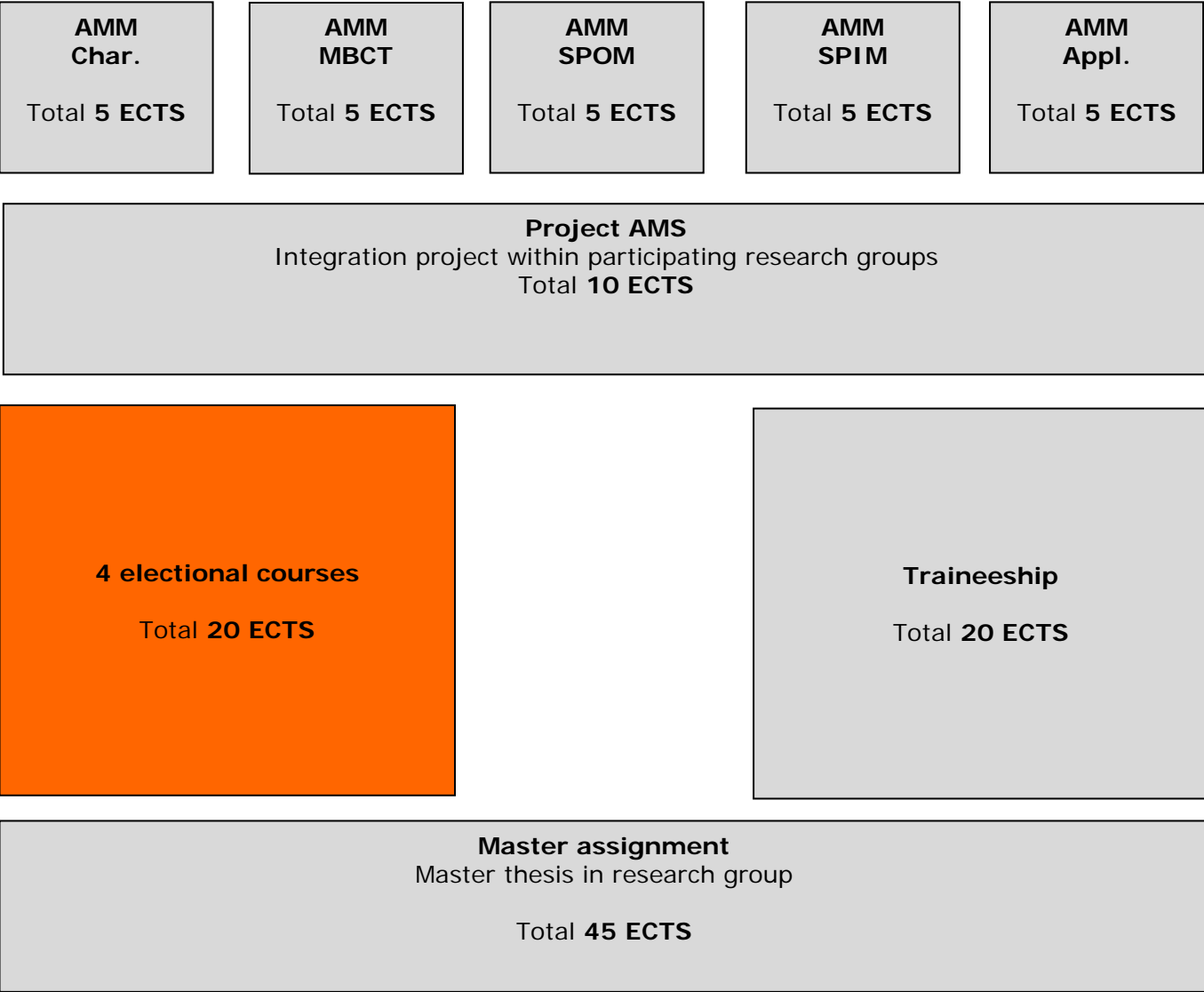






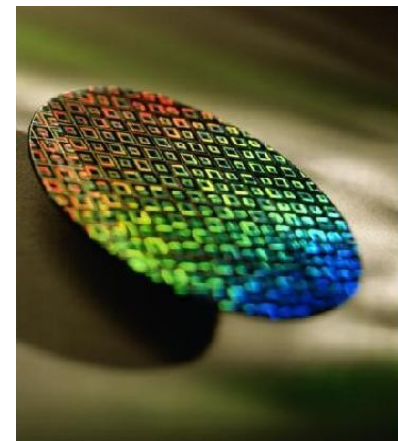
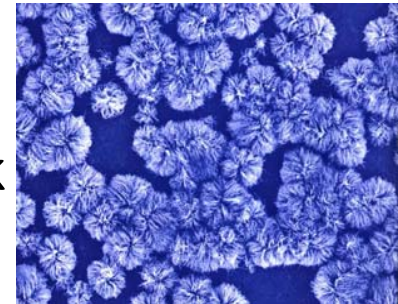
# Project AMS

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



# 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

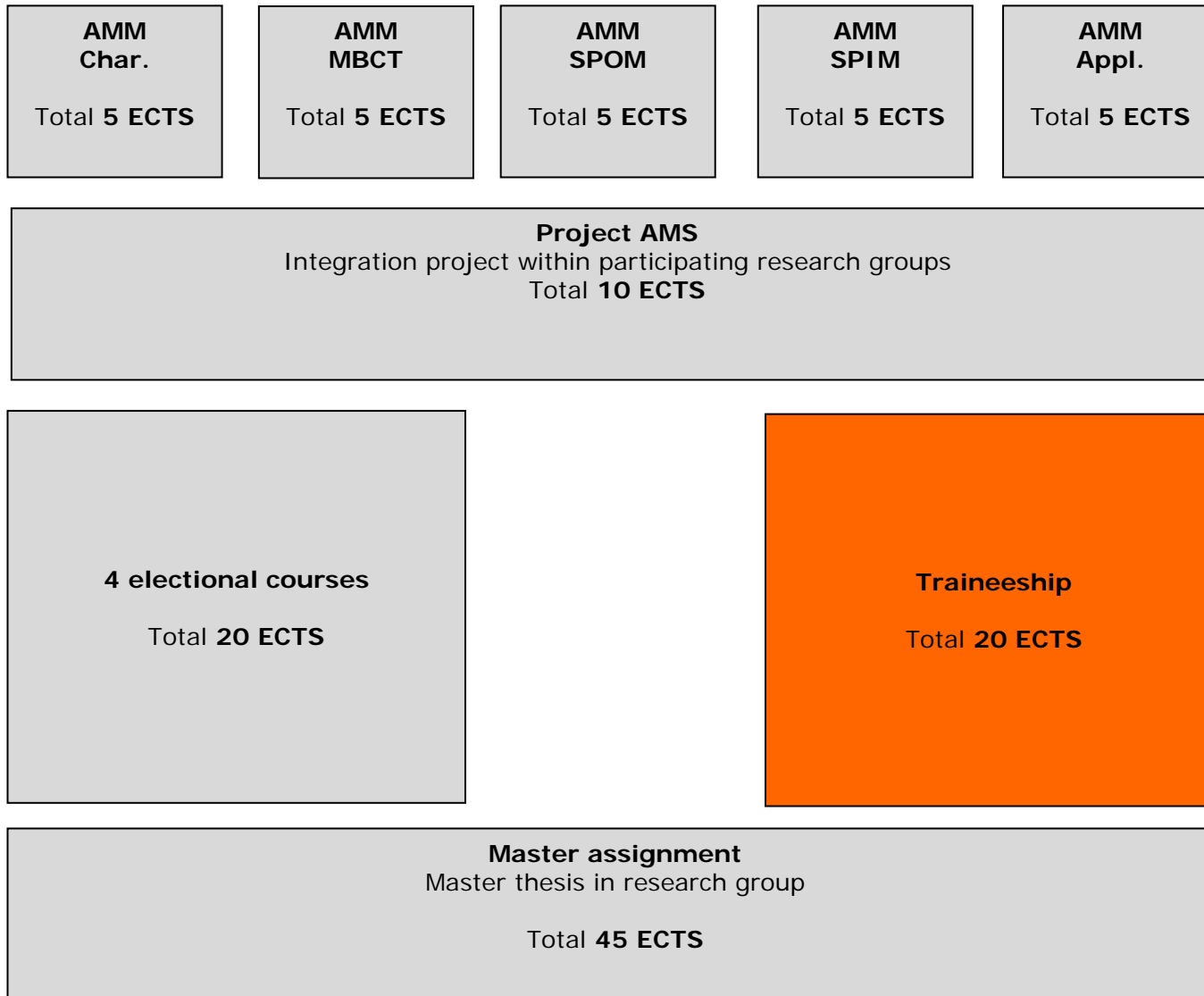


# 1<sup>st</sup> year

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 drug 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



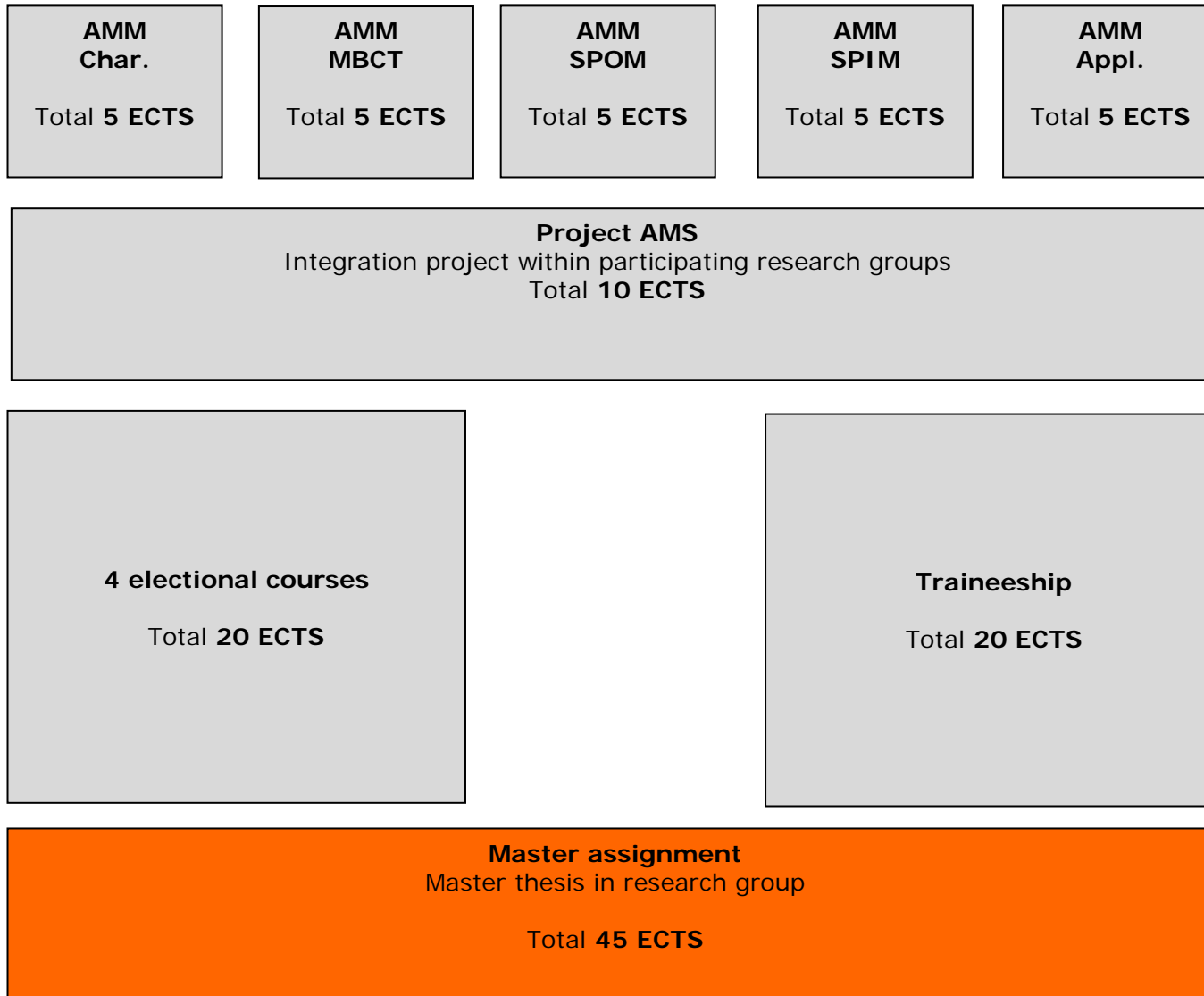
# Traineeship

Ing A. (Betty) Folkers

Email: [a.folkers@tnw.utwente.nl](mailto:a.folkers@tnw.utwente.nl)

Room: Horsttoren level 7 -> 6

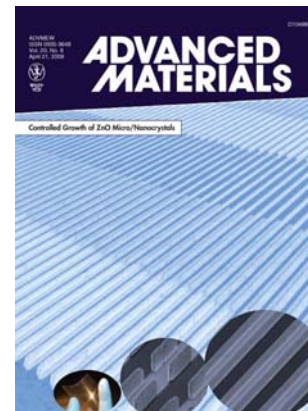
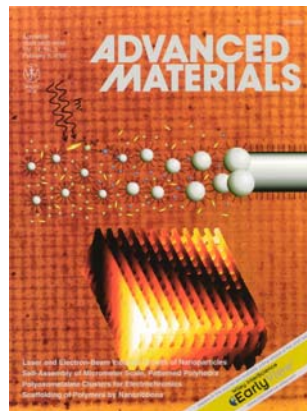
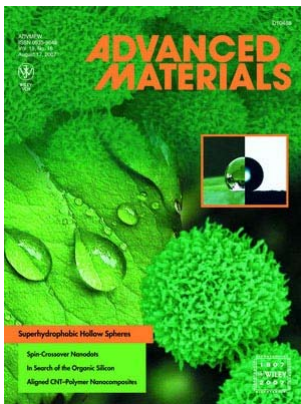
Phone: (053 489) 2772





# 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)

# 2<sup>nd</sup> year

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

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

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