

# **MATERIALS SCIENCE**

## **International Master Degree**

### **Corso di Laurea Magistrale Int.**

Alberto Paleari



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

# OUTLINE

- **INTRODUCTION**

ENTRY PATHS – RESEARCH & JOBS  
EDUCATIONAL PROJECT  
APPLICATION – DEADLINES - TARGETS

- **STRUCTURE**

CHOICE RULES  
TAILORING STRATEGIES

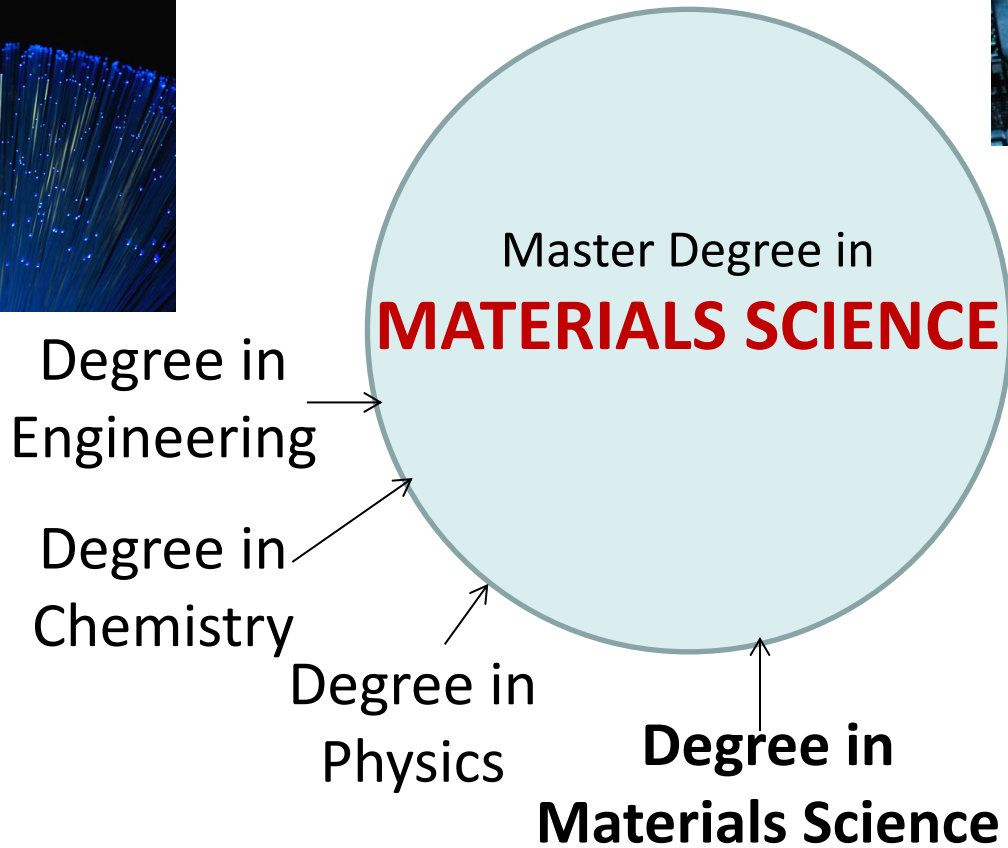
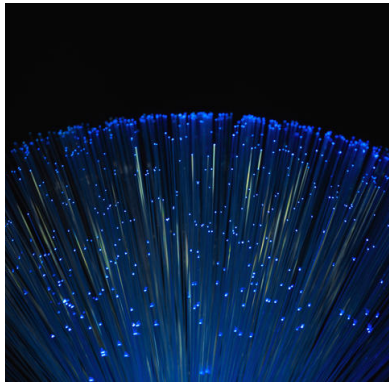
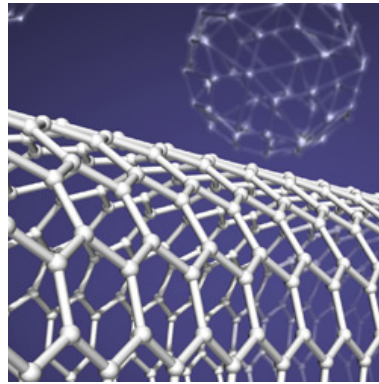
- **MOBILITY**

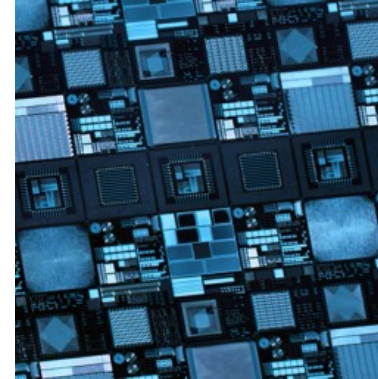
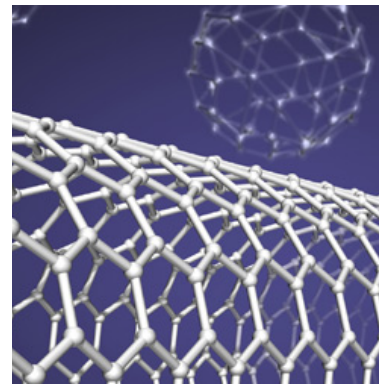
EIT DUAL DEGREE OPPORTUNITY  
ERASMUS OPPORTUNITIES

- **STATISTICS**

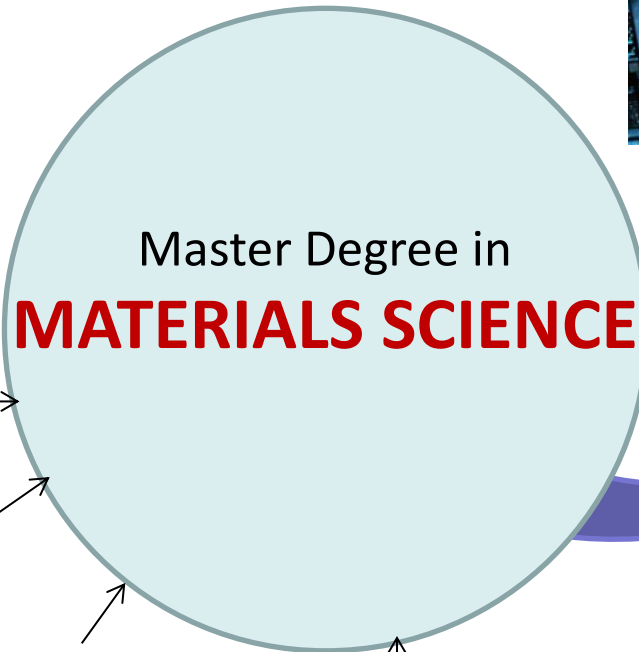
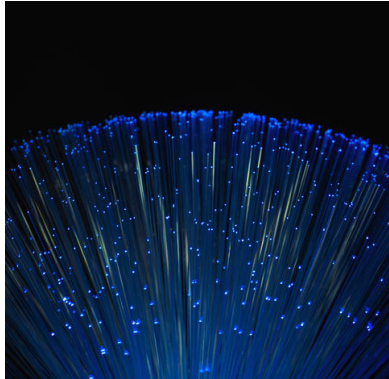
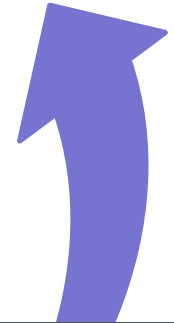
DATA ON CURRENT & NEXT COHORTS  
DATA ON JOB OPPORTUNITIES

- **CONTACTS**





HiTec Industry  
Research Centres  
Adv. Materials  
Prod. Processes



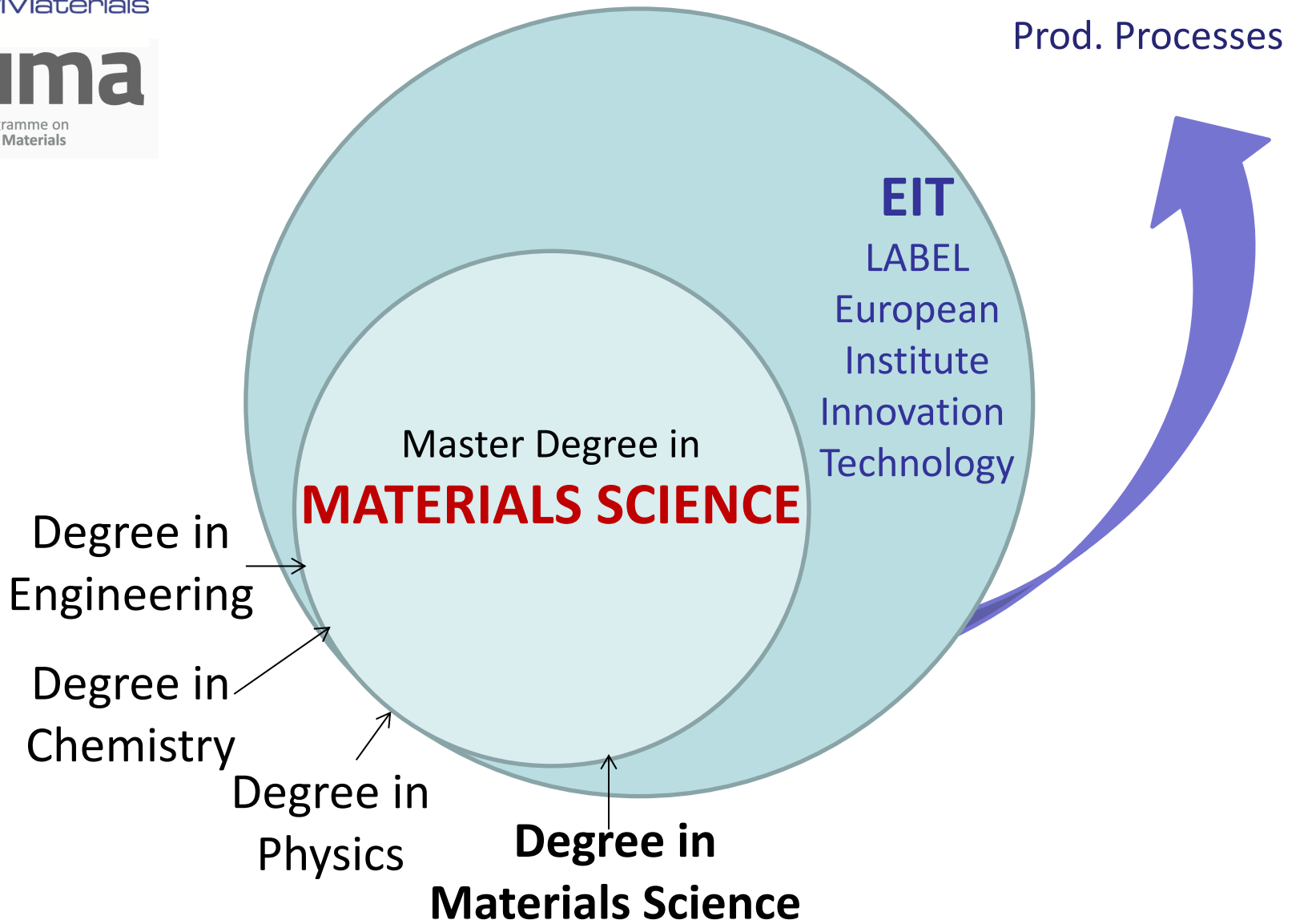
Degree in  
Engineering

Degree in  
Chemistry

Degree in  
Physics

Degree in  
Materials Science





SCIENTIFIC  
RESEARCH  
  
BUSINESS  
INNOVATION

EDUCATION

**EIT**  
LABEL  
European  
Institute  
Innovation  
Technology

Master Degree in  
**MATERIALS SCIENCE**

Degree in  
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Degree in  
**Materials Science**

SCIENTIFIC  
RESEARCH  
  
BUSINESS  
INNOVATION

Dual Master Degree in  
**SUSTAINABLE MATERIALS**

EDUCATION

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SCIENTIFIC  
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Master Degree in  
**MATERIALS SCIENCE**

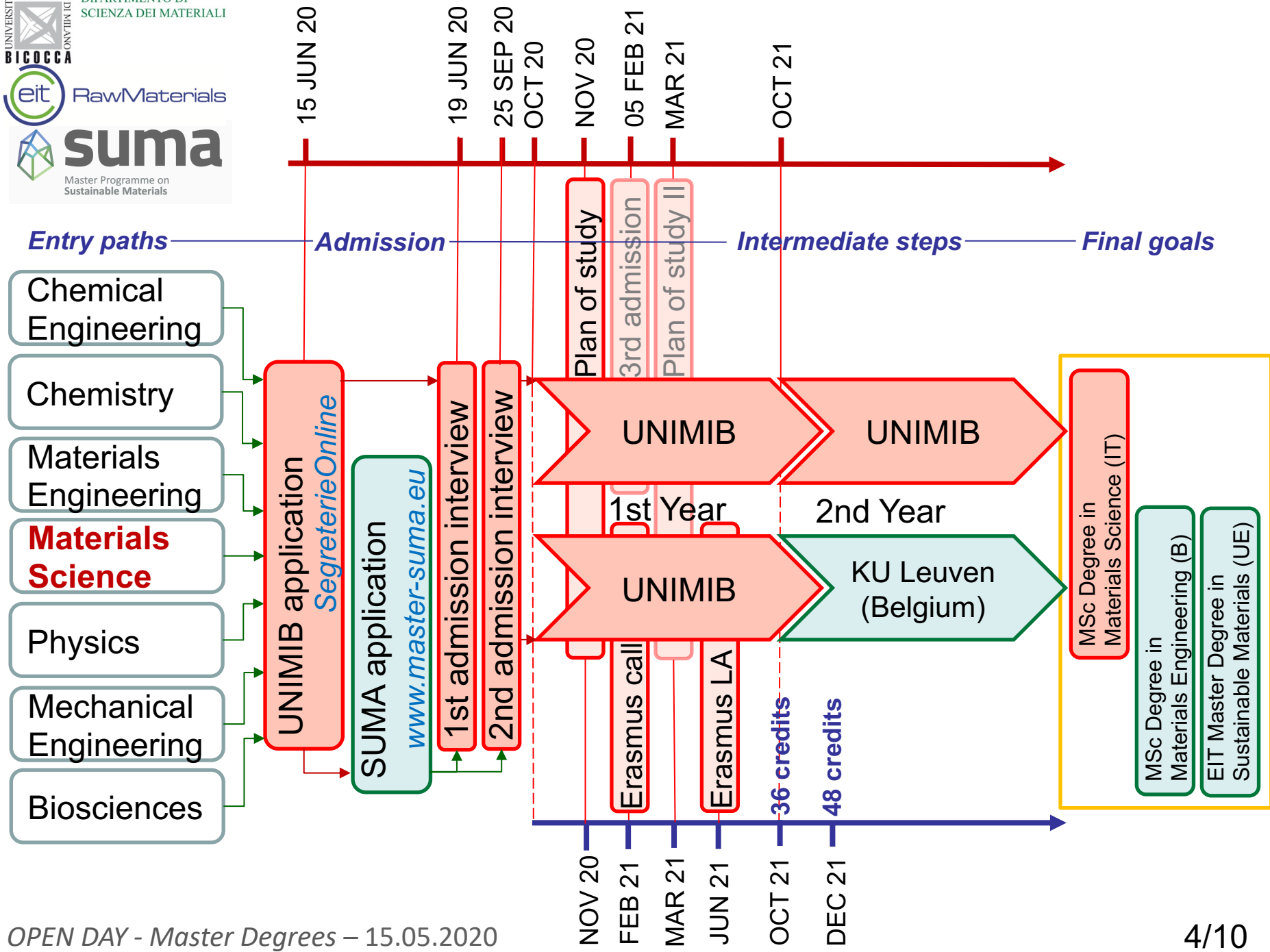
Dual Master Degree in  
**SUSTAINABLE MATERIALS**

**EIT**  
LABEL  
European  
Institute  
Innovation  
Technology

HiTec Industry  
Research Centres  
Adv. Materials  
Prod. Processes  
Sustainable Tech.  
Recycling

*Leuven*  
Master Degree in  
**MATERIALS  
ENGINEERING**





# PROGRAMME STRUCTURE

1st Year

2nd Year

## Physics

*Physics of Semiconductors  
Physics of homog.&nano Dielectrics  
Mol. Photonics & Electrns.*

## Chemistry

*Chem. of Inorganic Mater.  
Chem. of Molecular Mater.  
Phys.Chem. Solid State & Surfaces*

## Technology

*Phys.& Tech of Electr.Devices+LAB  
Chem.& Tech of Polymers+IND.Appl  
Low Environ.Impact Proc. & Mater.*

5 COURSES  
**PRINCIPLES  
& LABs**

*Chem-Phys-Math*

3 COURSES  
**AREAS**

2 COURSES  
**APPLICATIONS**

## Applications

*Metals Science & Sustainability  
Surfaces & Interfaces  
Radiation Matter Interaction*

*ELECTIVE  
COURSES  
&  
INTERNSHIP  
&  
THESIS*

1 COURSE  
**INNOVATION**

*Nanotech & Innovation  
Engineered Nanomaterials*

## Applications

*Mater.& Devices for Energy Eng.  
Statistical Thermodynamics of Mater  
Synthesis &Special Organic Tech.*

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1st Year

2nd Year

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## 5 COURSES PRINCIPLES & LABs mandatory courses

*Solid State Physics  
Therm.& kinetics of mater.  
Phys.Char.of Mater.&Lab  
Appl.Phys.Chemistry &Lab  
Functional Analysis*

## Supplementary

*Fundamentals of Quantum Mechanics  
for Materials Scientists  
Basic Chemistry for Materials Science*

## ELECTIVE COURSES & INTERNSHIP & THESIS

## 1 COURSE INNOVATION Nanotech & Innovation

## Applications

*Metals Science & Sustainability  
Surfaces & Interfaces  
Radiation Matter Interaction*

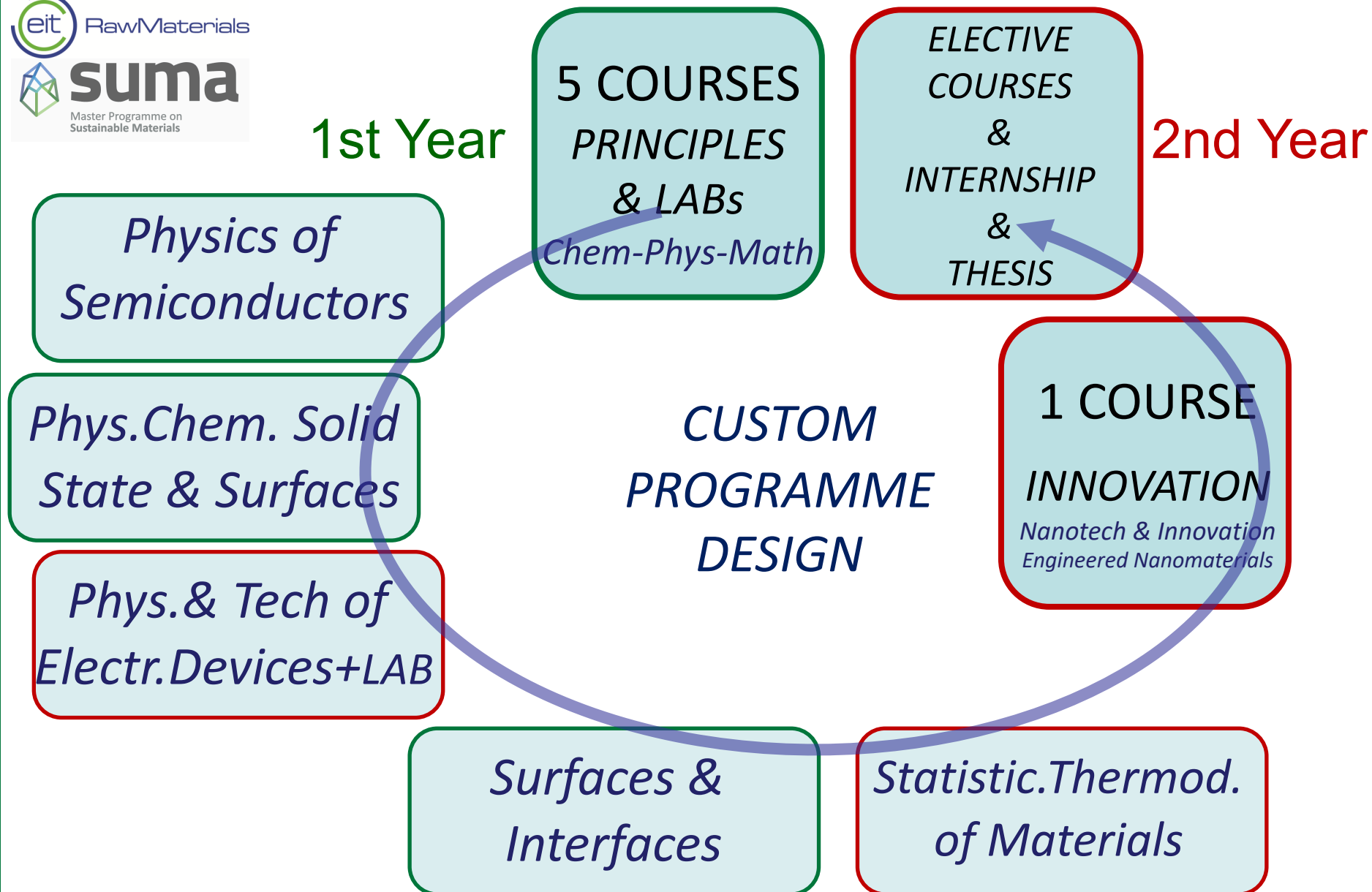
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Statistical Thermodynamics of Mater  
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# PROGRAMME STRUCTURE

1st Year

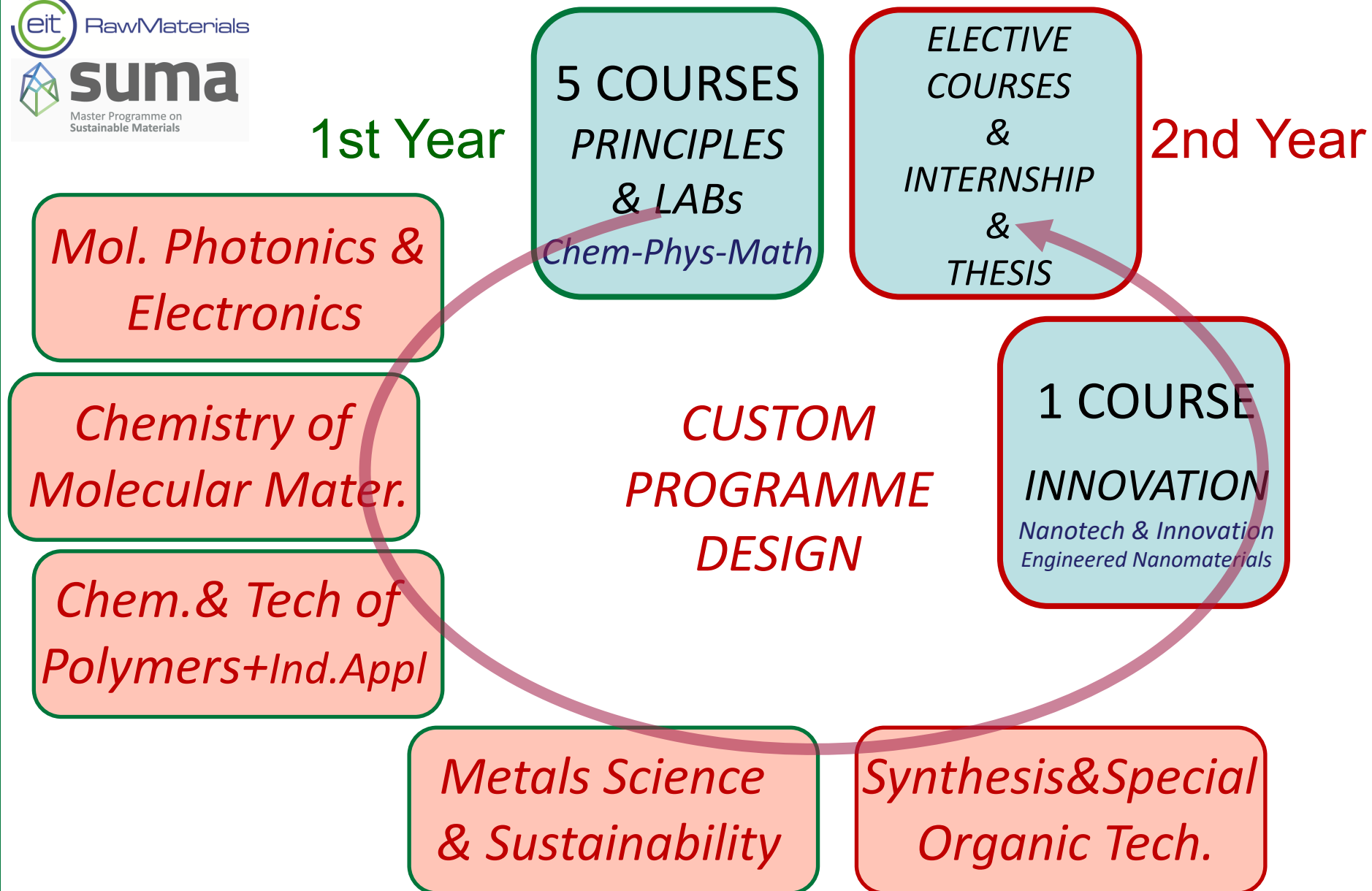
2nd Year



# PROGRAMME STRUCTURE

1st Year

2nd Year



# PROGRAMME STRUCTURE

1st Year

5 COURSES  
*PRINCIPLES  
& LABs*

*Chem-Phys-Math*

*Physics of homog  
& nano Dielectrics*

*Chemistry of  
Inorganic Mater.*

*Low Environ.Impact  
Procs.& Mater.*

*Radiation Matter  
Interaction*

*ELECTIVE  
COURSES  
&  
INTERNSHIP  
&  
THESIS*

2nd Year

1 COURSE  
*INNOVATION*

*Nanotech & Innovation  
Engineered Nanomaterials*

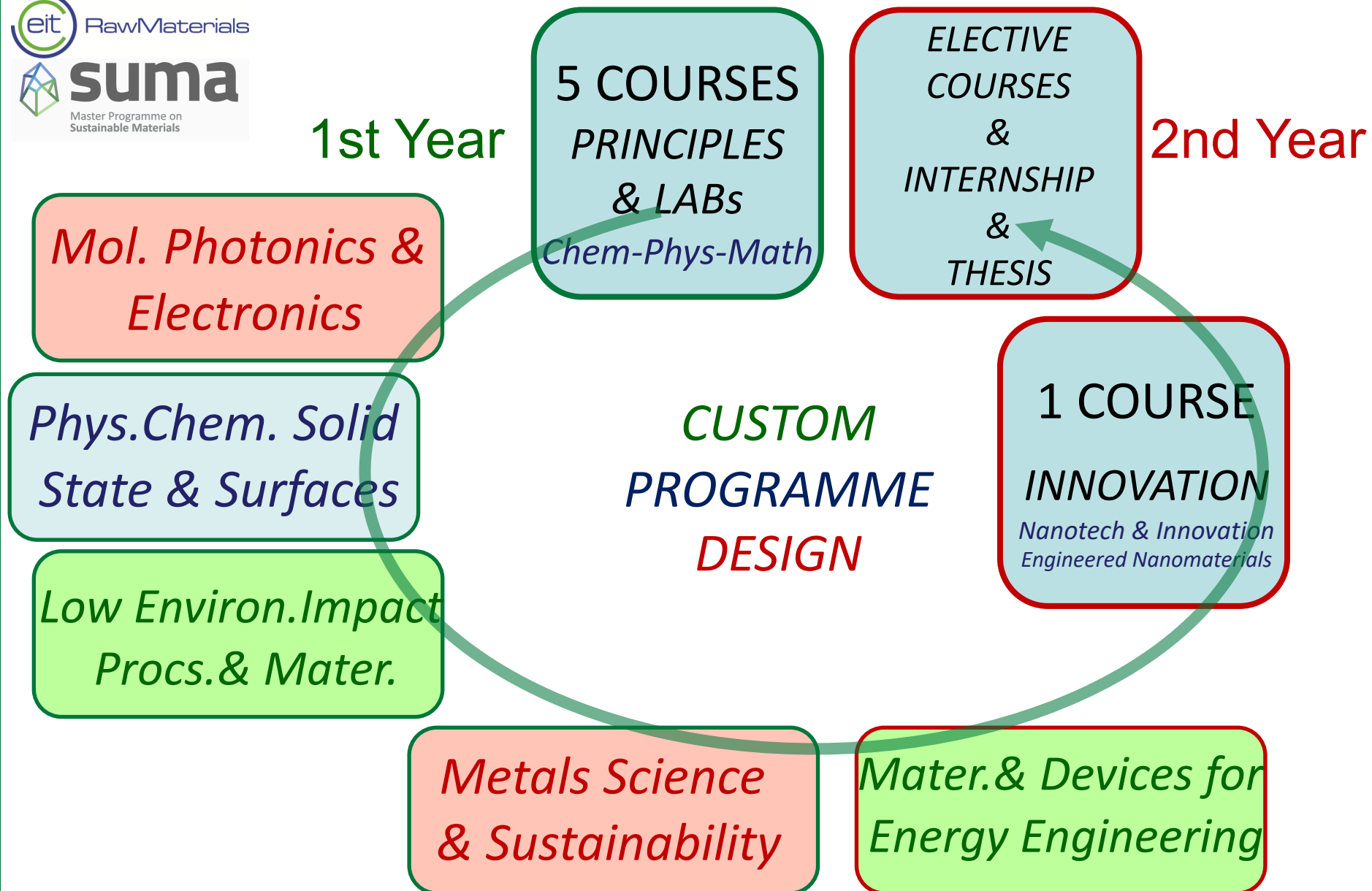
*Mater.& Devices for  
Energy Engineering*

*CUSTOM  
PROGRAMME  
DESIGN*

# PROGRAMME STRUCTURE

1st Year

2nd Year





# INTERNATIONAL PROGRAMME

1st Year

5 COURSES  
*PRINCIPLES  
& LABs*

*Chem-Phys-Math*

## Physics

*Physics of Semiconductors  
Physics of homog.&nano Dielectrics  
Mol. Photonics & Electrns.*

## Chemistry

*Chem. of Inorganic Mater.  
Chem. of Molecular Mater.  
Phys.Chem. Solid State & Surfaces*

## Technology

*Phys.& Tech of Electr.Devices+LAB  
Chem.& Tech of Polymers+IND.Appl  
Low Environ.Impact Proc. & Mater.*

3 COURSES  
*AREAS*

2nd  
Year

*ELECTIVE  
COURSES  
&  
INTERNSHIP  
&  
THESIS*

6 ECTS

*INNOVATION*

12 ECTS

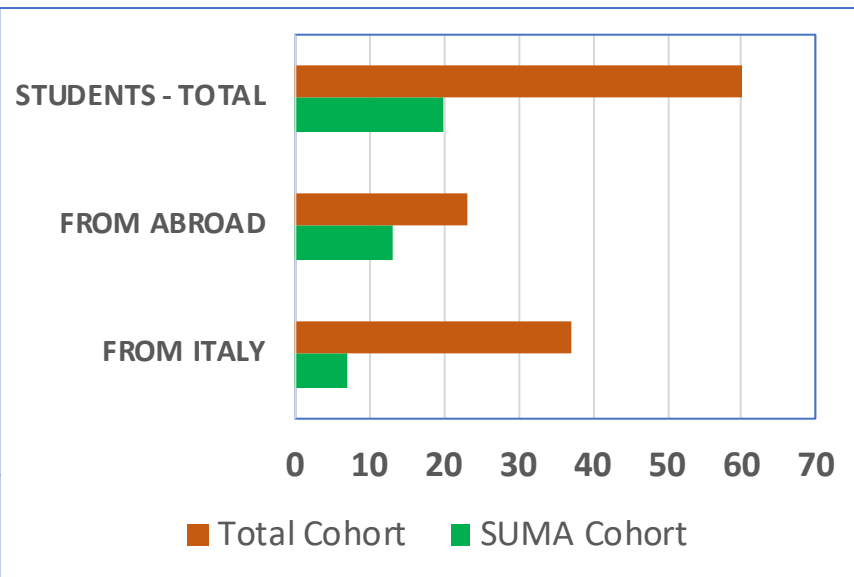
*APPLICATIONS  
SUSTAINABILITY*

*Applications  
SUSTAINABILITY  
ENTREPERNEURSHIP*

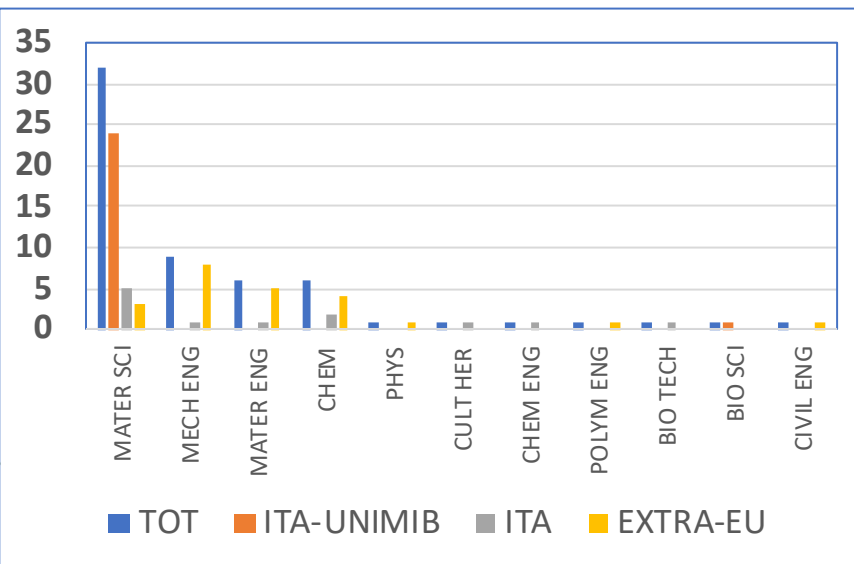
DUAL DEGREES – LEUVEN (B) / GRENOBLE (F)

# STATISTICS 2019-2020

## INTERNATIONAL IMPACT 2019-2020



## EDUCATIONAL BACKGROUND 2019-2020

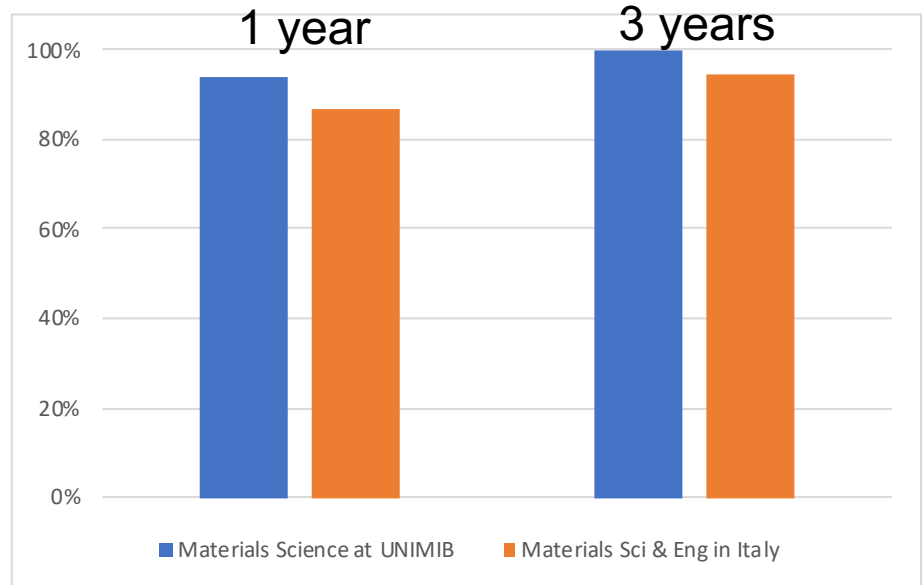


# STATISTICS

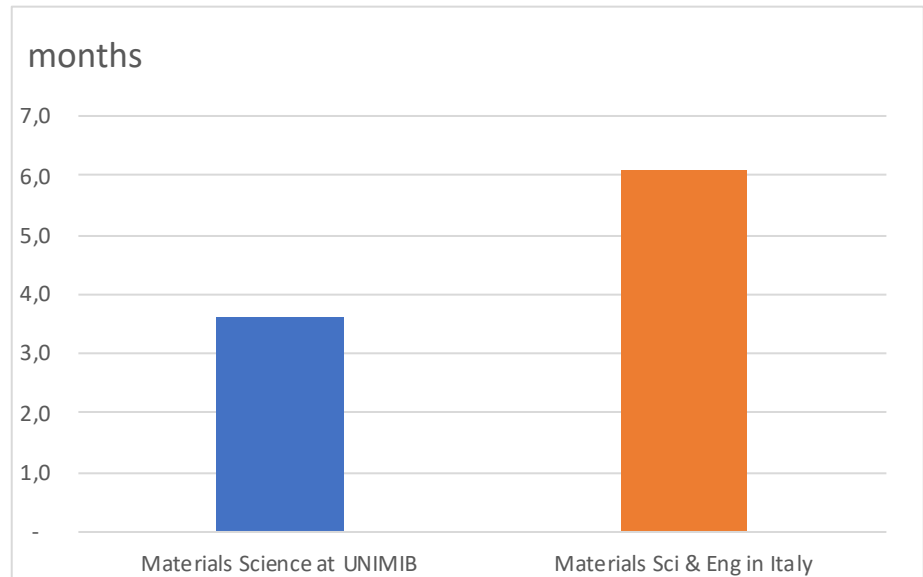
## 2019

(Alma Laurea)

Students with a job after 1 year and 3 years from the graduation



Time (months) for finding a job after graduation



# Benefits

## *During the programme*

- European Label of High Quality & Innovation
- International context – students from abroad
- Interaction with Research activities in cutting-edge topics
- Optional Dual Degree programme in Sustainable Materials
- EXTRA Grants for Master Thesis mobility (ERASMUS)
- Fee waivers for incoming foreign students (UNIMIB)
- Extra grants for mobility in Dual Degree tracks (EIT)

## *After the Master Thesis*

- Good job opportunities
- Master Student Award “Miriam Ferrari”
- BicoccALUMNI Association

# LINKS AND CONTACTS



<https://elearning.unimib.it/course/index.php?categoryid=4375>



[www.mater.unimib.it/](http://www.mater.unimib.it/)



[www.master-suma.eu](http://www.master-suma.eu)

[alberto.paleari@unimib.it](mailto:alberto.paleari@unimib.it)  
[didattica.materiali@unimib.it](mailto:didattica.materiali@unimib.it)