

# Course Specifications

Valid as from the academic year 2024-2025

# Photovoltaic Energy Conversion (E900132)

Course size	(nominal values; actual value	es may depend on prog	gramme)		
Credits 4.0	Study time 120	0 h			
Course offerings and tea	ching methods in academic y	ear 2024-2025			
A (semester 2)	English	Gent		seminar lecture	
0 (semester 2)	English	Gent			
Lecturers in academic ye	ar 2024-2025				
Strubbe, Filip TW06			lecturer-in-charge		
Offered in the following programmes in 2024-2025				crdts	offering
Bridging Programme Master of Science in Photonics Engineering				4	А
Master of Science in Photonics Engineering				4	A, 0
<b>Teaching languages</b> English					
Keywords					
Procession of the course	energy, sustainable energy				
To get familiar to so the photovoltaic eff Ecologic advantage Positioning of the s <b>Contents</b> • Availability of sola • Thermal conversio • Principles of phot • Realistic efficienc • Classical silicon so • Amorphous solar	olar energy and its conversion t ect. s of sustainable energy. ustainable energies within a br ar energy on ovoltaic conversion y plar cells (mono and polycrysta cells	o electrical work, by п oader thermodynamic lline)	neans of		
<ul> <li>GaAS solar cells</li> <li>Heterojunction so</li> <li>Ecology and econ</li> </ul>	lar cells				
Initial competences					
basics of thermody physics, diode theor	namics, quantumphyics, solid-st 'Y	tate physics, semi-con	ductor		
Final competences					
<ol> <li>INSIGHTS: Understanding th Understanding th</li> <li>INSIGHTS: The ecc efficiency and lim</li> <li>PROFICIENCIES: Co 4 PROFICIENCIES: Co solar energy.</li> </ol>	anding the basic principles of p e limitations of realistic solar p logical benefits of sustainable itations of photovoltaic and the alculations of the available sola alculations of the conversion ar	photovoltaic energy co anels. energy. Understandin ermal energy conversi ar energy. nd the conversion effic	onversion. g the on. ciency of		

# Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

#### Conditions for exam contract

This course unit cannot be taken via an exam contract

#### Teaching methods

Seminar, Lecture

# Study material

Type: Syllabus

Name: Photovoltaic energy conversion and sustainable energy Indicative price: Free or paid by faculty Optional: no Language : English Number of Pages : 216 Oldest Usable Edition : 2022 Available on Ufora : Yes Online Available : Yes Available in the Library : No Available through Student Association : No

### References

#### Course content-related study coaching

#### Assessment moments

end-of-term and continuous assessment

#### Examination methods in case of periodic assessment during the first examination period

Oral assessment, Written assessment

#### Examination methods in case of periodic assessment during the second examination period

Oral assessment, Written assessment

# Examination methods in case of permanent assessment

#### Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

#### Extra information on the examination methods

During examination period: written closed-book exam; oral closed-book exam non-period-boundevaluation: computer practicum with report

## Calculation of the examination mark

period-bound evaluation: written+oral examination: 80% non-period-bound evaluation: report computer practicum: 20%