UNIVERSITÀ DEGLI STUDI DI PADOVA

Description of the course

MASTER DEGREE COURSE IN **SUSTAINABLE CHEMISTRY AND TECHNOLOGIES FOR THE CIRCULAR ECONOMY** **Curriculum RESOURCES AND PRODUCT DESIGN AND RECYCLING** ***Study programme for students enrolled in the academic year 2024-2025 - entirely held in English***	
1st YEAR	
COMPULSORY COURSE UNITS	**credits**
GREEN CHEMISTRY AND INNOVATIVE CHEMICAL PROCESS	**9**
RENAWABLE ENERGY TECHNOLOGIES	**6**
WATER RESOURCES MANAGEMENT IN THE CIRCULAR ECONOMY	**6**
CIRCULAR AND SUSTAINABLE WASTE MANAGEMENT	**9**
THERMODYNAMICS AND CATALYSIS FOR CIRCULAR ECONOMY (C. I. MOD. A + MOD. B / THERMODINAMICS OF PROCESSES AND MATERIALS MOD. A + CATALYSIS FOR CIRCULAR ECONOMY MOD. B)	**12**
OPERATIONS AND SUPPLY CHAIN MANAGEMENT	**6**
EUROPEAN UNION ENVIRONMENTAL AND ENERGY LAW	**6**
ECONOMICS FOR THE CIRCULAR ECONOMY	**6**
2nd YEAR	
COMPULSORY COURSE UNITS	**credits**
MATERIALS DESIGN AND SELECTION FOR CIRCULAR ECONOMY	**9**
SUSTAINABLE MATERIALS AND RECYCLING FOR CIRCULAR ECONOMY (C. I. MOD. A + MOD. B + MOD. C/ SUSTAINABLE MINERAL GEO-RESOURCES AND CRITICAL RAW MATERIALS (CRM) MOD. A + RECYCLING AND TRANSFORMATION OF INORGANIC MATERIALS MOD. B + NEW PLASTIC ECONOMY: POLYMERS, BIOPOLYMERS AND THEIR RECYCLING MOD. C)	**18**
CIRCULARITY IN BIOMASS PRODUCTIONS	**6**
OTHER COMPULSORY ACTIVITIES	
FREE-CHOICE CREDITS	**12**
FINAL EXAM	**15**
USEFUL INFORMATION: • **free-choice credits can be chosen among the university's educational offer as long as they are consistent with the educational path** • **in the educational offer of the Master degree course in Sustainable Chemistry and Technologies for the Circular Economy/Curriculum Resources and Product**	

Design and Recycling, five teachings have been introduced specifically for free-choice, shown in the table below, whose contents are certainly consistent with the educational path • **according to the didactic regulation of the degree course, attendance is mandatory for lessons for at least 70% of the hours and for laboratories for at least 75% of the hours**	

FREE-CHOICE COURSE UNITS	**credits**
HEALTH AND ENVIRONMENT IN CIRCULAR ECONOMY	**6**
PSYCHOLOGY, POLICY MAKING AND EDUCATION TO A CIRCULAR ECONOMY	**6**
SYNTHETIC BIOTECHNOLOGY	**6**
UNDERSTANDING STATISTICS OF CIRCULAR ECONOMY	**6**
CIRCULAR ECONOMY SUMMER SCHOOL	**5**

MASTER DEGREE COURSE IN

SUSTAINABLE CHEMISTRY AND TECHNOLOGIES FOR THE CIRCULAR ECONOMY

Curriculum ENERGY CONVERSION AND STORAGE

Study programme for students enrolled in the academic year 2024-2025 - entirely held in English

1st YEAR	
COMPULSORY COURSE UNITS	**credits**
GREEN CHEMISTRY AND INNOVATIVE CHEMICAL PROCESS	**9**
RENAWABLE ENERGY TECHNOLOGIES	**6**
WATER RESOURCES MANAGEMENT IN THE CIRCULAR ECONOMY	**6**
CIRCULAR AND SUSTAINABLE WASTE MANAGEMENT	**9**
THERMODYNAMICS AND CATALYSIS FOR CIRCULAR ECONOMY (C. I. MOD. A + MOD. B / THERMODINAMICS OF PROCESSES AND MATERIALS MOD. A + CATALYSIS FOR CIRCULAR ECONOMY MOD. B)	**12**
OPERATIONS AND SUPPLY CHAIN MANAGEMENT	**6**
EUROPEAN UNION ENVIRONMENTAL AND ENERGY LAW	**6**
ECONOMICS FOR THE CIRCULAR ECONOMY	**6**
2nd YEAR	
COMPULSORY COURSE UNITS	**credits**
BIOREFINERIES AND SUSTAINABLE ENERGY PRODUCTION AND STORAGE FOR CIRCULAR ECONOMY	**15**

SUSTAINABILITY STRATEGIES AND ENERGY ECONOMICS (C. I. MOD. A + MOD. B / SUSTAINABILITY STRATEGIES AND INNOVATION MANAGEMENT MOD. A + ENERGY ECONOMICS MOD. B)	**12**
LIFE CYCLE ASSESSMENT	**6**
OTHER COMPULSORY ACTIVITIES	
FREE-CHOICE CREDITS	**12**
FINAL EXAM	**15**
USEFUL INFORMATION: • **free-choice credits can be chosen among the university's educational offer as long as they are consistent with the educational path** • **in the educational offer of the Master degree course in Sustainable Chemistry and Technologies for the Circular Economy/Curriculum Resources and Product Design and Recycling, five teachings have been introduced specifically for free-choice, shown in the table below, whose contents are certainly consistent with the educational path** • **according to the didactic regulation of the degree course, attendance is mandatory for lessons for at least 70% of the hours and for laboratories for at least 75% of the hours**	

FREE-CHOICE COURSE UNITS	**credits**
HEALTH AND ENVIRONMENT IN CIRCULAR ECONOMY	**6**
PSYCHOLOGY, POLICY MAKING AND EDUCATION TO A CIRCULAR ECONOMY	**6**
SYNTHETIC BIOTECHNOLOGY	**6**
UNDERSTANDING STATISTICS OF CIRCULAR ECONOMY	**6**
CIRCULAR ECONOMY SUMMER SCHOOL	**5**