

Appendix

DOUBLE-DEGREE AGREEMENT

Between

the UNIVERSITAT POLITÈCNICA DE CATALUNYA, Barcelona, Spain

and

**the UNIVERSITY OF TRENTO, DEPARTMENT OF CIVIL, ENVIRONMENTAL AND MECHANICAL
ENGINEERING**

together with

THE FREE UNIVERSITY OF BOZEN-BOLZANO, FACULTY OF ENGINEERING

Duration: Academic Year 2024-25 to 2027-28

Degree programme at	University of Trento, Department of Civil, Environmental and Mechanical Engineering and Free University of Bozen-Bolzano, Faculty of Engineering
Degree awarded	Master in Energy Engineering (Laurea Magistrale)
Annual access places	3
Language of instruction	English
Admission criteria	<p>Admission to UniTrento/unibz for UPC students: UniTrento/Unibz will admit, with the status of “exchange students”, students from UPC who:</p> <p>are enrolled in the master’s degree in Energy Engineering (MENERG) and have fulfilled the requirements for the first year; have proven their English language skills (level B2 of the Common European Framework).</p> <p>In order to obtain the Master Degree, non-native Italian speakers must take an exam of technical Italian language within the end of their mobility. Native Italian speakers must instead pass an exam of German Technical language.</p>
Degree programme at	ETSEIB
Degree awarded	Master’s degree in Energy Engineering (MUEE)
Annual access places	3
Language of instruction	English
Admission criteria	<p>Admission to ETSEIB-UPC for UniTrento/unibz students: ETSEIB-UPC will admit students from UniTrento/unibz who:</p>

	<p>have successfully completed the first year of the Master's degree in Energy Engineering (Laurea Magistrale);</p> <p>have proven their English language skills (level B2 of the Common European Framework).</p> <p>Students must pass an exam of Spanish or Catalan Technical language within the end of their mobility.</p>
<p>All the degrees will be awarded at the end of the course of study, once the student has finished all the required courses at the home and host institutions and defended the master thesis. Students may defend the thesis only after they have passed all the exams in their double degree study plan.</p>	

Reference Study Plan

Students enrolled at UPC

Semester	Compulsory	Course	ECTS
1	c	Power System	5
1	c	Energy and Environment	5
1	c	Hydropower and ocean Energy	5
1	c	Energy Resources	5
1	c	Renewable Energy Technology	5
1		Solar Photovoltaics	5
1		Wind Power	5
2	c	Energy Efficiency and Rational Use of Energy	5
2	c	Energy Markets	5
2	c	Energy Engineering project	5
2		Electrical Equipment	5
2		Thermal Equipment	5
2		Energy Storage	5

FIRST YEAR AT UPC 65

1		Power Production, CHP and District Heating Systems (2 modules) (unibz)	6
1 or 2		Elective course (free choice)	6
1		Advanced materials for Energy Engineering	12
1		Engineering	6
2		Bioenergy (UniTrento)	6
2		Electrochemical energy storage and Conversion (UniTrento)	6
2		Smart Grids	6
2		Italiano tecnico /Technisches Deutsch* (unibz)	3
1+2		Master Thesis (extra credits)	15

SECOND YEAR AT UniTrento/UniBz 66
TOTAL ECTS 131

Students enrolled at UniTrento/unibz

Semester	Compulsory	Course	ECTS
1		Electrical Systems Engineering	6
1		Environmental Fluid Mechanics (module 1/2)	4
		Hydropower Plants (module 2/2)	5
1		Fluid Machines Engineering	9
1		Applied Energetics	6
2		Electric Power Conversion Equipment	6
2		Building HVAC Systems	9
2		Advanced Applications of Building Physics	9
1 or 2		Elective course (free choice)	6
2		Italiano tecnico* /Technisches Deutsch	3

FIRST YEAR AT UniTrento/UniBz 63

1		Biomass and Waste	5
1		Heat Engines and Combustion	5
1		Biogas and Biofuels	5
1		Wind Power	5
1	c	Renewable Energy Technology	5
2	c	Energy Markets	5
1		Hydrogen and fuel cells	5
1		Electrical Power Systems in a Distributed Environment	5
2		Master Thesis	30

SECOND YEAR AT UPC 70
TOTAL ECTS 133

*Italiano tecnico is compulsory for non-native Italian speakers.

Grade Conversion Table and Credit Recognition (ECTS)

UPC		UniTrento/UniBz	
Qualitative rating	Numeral rating	ETCS scale	Numeral rating
Failed	0-4,9	Failed	<18
Adequate	5-6,9	E	18-23
Good	7-8,9	C	27-28
Merit / Merit with distinction	9-10	A	30 e lode

Learning Agreement template

Higher Education Learning Agreement for Studies

GENERAL INFORMATION

Student	Last name(s)			
	First name(s)		Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary
	Date of birth		Nationality	
	Study Cycle ⁱ	EQF level 7	Field of education ⁱⁱ	071

Sending Institution	Universitat Politècnica de Catalunya (UPC)		Erasmus code	EBARCELO03
	Faculty/Department	ETSEIB (Escolta Tècnica Superior d'Enginyeria Industrial de Barcelona)		
	Address	Avinguda Diagonal, 647, 08028 Barcelona	Country	Spain
	Contact person name	Juan Jesus Perez		
	Position	Office of International Relations and Admissions		
	Phone	(34) 93 401 66 27	e-mail:	relint.etseib@upc.edu

Receiving Institution	Name		Erasmus code (if applicable)	
	Faculty/Department			
	Address			
	City		Country	
	Contact person ⁱⁱⁱ			
	Position			
	Phone		e-mail:	

Table B – Recognition at the Sending Institution

Component code (if any)	Component title at the Sending Institution (as indicated in the course catalogue)	Semester [e.g. autumn/spring; term]	Number of ECTS credits (or equivalent) to be recognised by the Sending Institution
Total:			
Provisions applying if the student does not complete successfully some educational components: [web link to the relevant information]			

Commitment

By signing this document, the student, the Sending Institution and the Receiving Institution confirm that they approve the Learning Agreement and that they will comply with all the arrangements agreed by all parties. Sending and Receiving Institutions undertake to apply all the principles of the Erasmus Charter for Higher Education relating to mobility for studies (or the principles agreed in the Inter-Institutional Agreement for institutions located in Partner Countries). The Beneficiary Institution and the student should also commit to what is set out in the Erasmus+ grant agreement. The Receiving Institution confirms that the educational components listed in Table A are in line with its course catalogue and should be available to the student. The Sending Institution commits to recognise all the credits or equivalent units gained at the Receiving Institution for the successfully completed educational components and to count them towards the student's degree as described in Table B. Any exceptions to this rule are documented in an annex of this Learning Agreement and agreed by all parties. The student and the Receiving Institution will communicate to the Sending Institution any problems or changes regarding the study programme, responsible persons and/or study period.

Student	Name		signature
	e-mail		
	Position		
	Date		
Responsible person ^{viii} at the Sending Institution	Name	Juan Jesus Perez	signature
	e-mail	perez.sd.etsuib@upc.edu	
	Position	Associate dean for International relations	
	Date		
Responsible person ^{ix} at the Receiving Institution	Name		signature
	e-mail		
	Position		
	Date		

AFTER THE MOBILY

Table C – Transcript of Records at the Receiving Institution

Start and end dates of the study period:		From:	to:	
		(day/month/year)	(day/month/year)	
Component code (if any)	Component title at the Receiving Institution (as indicated in the course catalogue)	Was the component successfully completed by the student? [Yes/No]	Number of ECTS credits (or equivalent)	Grades received at the Receiving Institution
Total:				

Table D – Transcript of Records and Recognition at the Sending Institution

Start and end dates of the study period:		From:	to:
		(day/month/year)	(day/month/year)
Component code (if any)	Title of recognised component at the Sending Institution (as indicated in the course catalogue)	Number of ECTS credits (or equivalent)	Grades received at the Sending Institution
Total:			

ⁱ **Study cycle:** Short cycle (EQF level 5) / Bachelor or equivalent first cycle (EQF level 6) / Master or equivalent second cycle (EQF level 7) / Doctorate or equivalent third cycle (EQF level 8).

ⁱⁱ **Field of education:** The ISCED-F 2013 search tool available at http://ec.europa.eu/education/tools/isced-f_en.htm should be used to find the ISCED 2013 detailed field of education and training that is closest to the subject of the degree to be awarded to the student by the Sending Institution.

ⁱⁱⁱ **Contact person:** person who provides a link for administrative information and who, depending on the structure of the higher education institution, may be the departmental coordinator or works at the international relations office or equivalent body within the institution.

^{iv} An **"educational component"** is a self-contained and formal structured learning experience that features learning outcomes, credits and forms of assessment. Examples of educational components are a course, module, seminar, laboratory work, practical work, preparation/research for a thesis, mobility window or free electives.

^v **Course catalogue:** detailed, user-friendly and up-to-date information on the institution's learning environment that should be available to students before the mobility period and throughout their studies to enable them to make the right choices and use their time most efficiently. The information concerns, for example, the qualifications offered, the learning, teaching and assessment procedures, the level of programmes, the individual educational components and the learning resources. The Course Catalogue should include the names of people to contact, with information about how, when and where to contact them.

^{vi} **ECTS credits (or equivalent):** in countries where the "ECTS" system is not in place, in particular for institutions located in Partner Countries not participating in the Bologna process, "ECTS" needs to be replaced in the relevant tables by the name of the equivalent system that is used, and a web link to an explanation to the system should be added.

^{vii} **Level of language competence:** a description of the European Language Levels (CEFR) is available at: <https://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr>.

^{viii} **Responsible person at the Sending Institution:** an academic who has the authority to approve the Learning Agreement, to exceptionally amend it when it is needed, as well as to guarantee full recognition of such programme on behalf of the responsible academic body. The name and email of the Responsible person must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.

^{ix} **Responsible person at the Receiving Institution:** the name and email of the Responsible person must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.

Executive Coordinators of the Programme

<p>For University of Trento, Department of Civil, Environmental and Mechanical Engineering</p>	<p>Academic coordinator of the programme at the UPC, ETSEIB</p>
<p><i>Contact academic person:</i> Alessandro Prada alessandro.prada@unitn.it tel. +39 0461 282516</p>	<p><i>Contact academic person:</i> Associate Dean for Int. Relations Juan Jesús Pérez Juan.jesus.perez@upc.edu Tel. +34 620949488</p>
<p>For The Free University of Bozen-Bolzano, Faculty of Engineering, Bolzano</p>	
<p><i>Contact person:</i> Marco Baratieri marco.baratieri@Unibz.it + 39 0471 017201</p>	
<p>Administrative persons are:</p> <p><u>For UniTrento</u> 1. For agreement negotiation/renewal/signatures: International Relations Division in the persons of Grazia Callovini (head) and Chiara Lombardo Via Verdi 6 38122 Trento Tel: +39 0461 283224 E-mail: international@unitn.it 2. For students' mobility and annexes (study plan, conversion tables, etc.) International Mobility Office in the person of Virna Eccli Tel. +39 0461 282587 E-mail: mobility-st@unitn.it</p> <p><u>For unibz:</u> 1. For agreement negotiation/renewal/signatures/students' mobility: International Relations Office piazza Università, 1 39100 Bolzano Tel: +39 0471 12500 E-mail: international.relations@unibz.it 2. For annexes (study plan, conversion tables, etc.) Faculty of Science and Technology Tel. +39 0471 017000 E-mail: science.technology@unibz.it</p>	<p>For UPC administrative persons are:</p> <p>José Parra Rodríguez International Relations of the ETSEIB Campus Diagonal Sud Edifici H Diagonal, 647 08028 Barcelona Tel: +34 934054213 E-mail: jose.parra@upc.edu</p>

