FAUBAI 2019 CONFERENCE

Global Community Engagement

APRIL 13-17 - BELÉM, BRAZIL

DOUBLE DEGREE

Bachelor degree in Electrical Engineering (EEL), IFSC, Florianópolis campus;
MSc in Electrical Engineering – Electric Power Systems (MEESEE), Porto Higher Institute of Engineering (ISEP), IPP.

INSTITUTO FEDERAL
SANTA CATARINA

Rubipiara Cavalcante Fernandes, PhD – Professor EEL - IFSC
Raquel Matys Cardenuto, MSc - Assint - IFSC


INSTITUTO
FEDERAL
Santa Catarina
WELCOME

INSTITUTO FEDERAL
SANTA CATARINA

IFSC
Federal Institute of Santa Catarina

The Federal Institute of Santa Catarina (IFSC) is a public institution linked to the Education Ministry (MEC). IFSC has been existed for more than one century (it was founded in 1909).

IFSC offers public education in a variety of areas and modalities, from basic formation to technician coursesand graduation, from short duration courses to specializations and master degrees.

However, IFSC focuses in technology fields most of the times trying to supply the demand of the areas close to the institution campuses.

There are 22 IFSC campuses in Santa Catarina state, covering the whole state, with more than 40.000 students, 2600 employees and 670 courses.

The **Federal Institute of Santa Catarina (IFSC)** is a Brazilian federal autarchy, linked to the Ministry of Education (MEC) through the Secretary of Professional Education and Technology (Setec).

IFSC keeps 22 campuses in the state of Santa Catarina

INSTITUTO FEDERAL
SANTA CATARINA

Federal Institute of Santa Catarina (IFSC)

The main purpose of the institution is to offer qualification in many fields of study, in the various levels and modalities of education, as well as conduct research and development of new processes, products and services, in order to enhance the productive sectors in Santa Catarina.

IFSC holds partnerships with many international institutions in education abroad. Periodically, it receives students, professors and administrative officers in exchange programs.

We offer Portuguese Language courses and Brazilian Culture for foreigners, especially for immigrants in our country.

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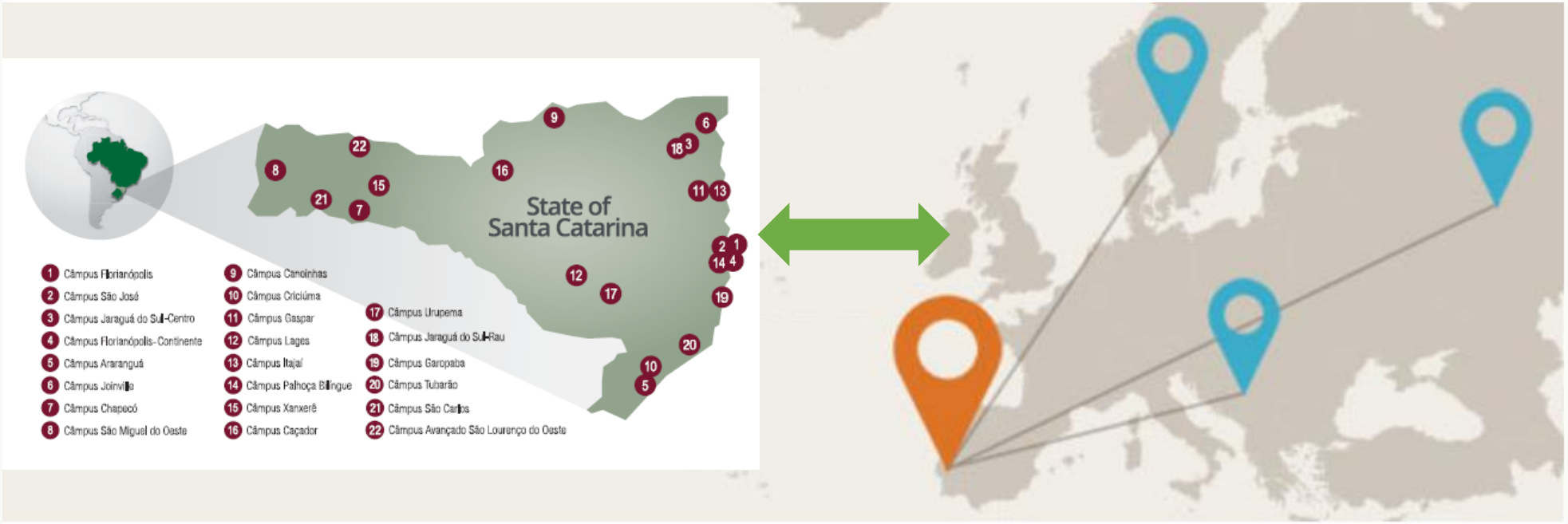
SANTA CATARINA

IFSC is open to the world!

Besides holding programs and exchange partnerships for its students and employees, IFSC also receives students and professors from all around the world, which are interested in dive into a new culture and study in Brazil.



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INTERNATIONALIZATION IFSC

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Internationalization | *Some of our projects*

PROPICIE

Propicie is an exchange and researcher program created and supported by the IFSC which aims at sending students from 'Technical Level and Undergraduate Level' to accredited Educational Institutions abroad. The main objective of this Program is offering opportunities for IFSC's students to go abroad to study in fields related to their academic area.

During the last six years, in thirteen editions, the program has already sent about 160 students.

DOUBLE DEGREE

A double degree program, or double graduation program, involves a student's working for two different university degrees in parallel, either at the same institution or at different institutions (sometimes in different countries), completing them in less time than it would take to earn them separately. The two degrees might be in the same subject area (especially when the course is split between countries), or in two different subjects. At this moment IFSC has a double degree partnership with the IPP – Instituto Politécnico do Porto.

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DOUBLE DEGREE - ISEP

A double degree program, or double graduation program, involves a student working for two different university degrees in parallel, either at the same institution or at different institutions (sometimes in different countries), completing them in less time than it would take to earn them separately. The two degrees can be in the same subject area (especially when the course is split between countries), or in two different subjects. At this moment IFSC has a double degree partnership with IPP – Instituto Politécnico do Porto.

Double Degree Programme between Federal Institute of Santa Catrina - IFSC/Brazil and the Porto Polytechnic/Portugal

Double Degree IFSC- IPP

P.PORTO

apresentação ensino investigação inovação internacional comunidade

In 2017 we signed a Cooperation Agreement at the Higher Institute of Engineering, Porto (ISEP/IPP) for the double degree program between IFSC and ISEP/IPP. This agreement stipulates the guidelines for the double degree award between the graduate course in Electrical Engineering at the Florianópolis campus and the Masters course in Electrical Engineering, Electrical Power systems from the Higher Institute of Engineering, Porto.

Double Degree IFSC- IPP

In 2006, Portugal initiated a new chapter in its long history and adopted the Bologna declaration. Consequently, ISEP implemented a new Study Plan comprising Bachelor and Master degrees in several areas of Engineering.

MESTRADO EM ENGENHARIA ELETROTÉCNICA

SISTEMAS ELÉTRICOS DE ENERGIA

Master degree in **Electrical Engineering Power Systems (MEESEE)**,

Double Degree IFSC- IPP

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POLITÉCNICO DO PORTO

isep Instituto Superior de Engenharia do Porto

MESTRADO EM ENGENHARIA ELETROTÉCNICA

SISTEMAS ELÉTRICOS DE ENERGIA

Masters: 2 years (120 ECTS units)

Master degree in **Electrical Engineering**
Power Systems (MEESEE)

The Europe 2020 strategy is strongly committed to address energy sustainability and climate change. Increasing energy efficiency and the production of renewable energy by 20% are two objectives that rely on electrical engineering solutions. But power systems will also lead advances in many other sectors.

With the **MSc in Electrical Engineering - Power Systems**, ISEP specializes engineers in intelligent energy, electrical grids automation, sustainable production technologies and high power installations design. The course follows international trends, devoting special attention to the challenges and opportunities of liberalized markets and such topics as electric mobility.

Double Degree IFSC- IPP

Framework

- Double degree program between:

➢ Bachelor degree in Electrical Engineering (EEL), IFSC, Florianópolis campus;

➢ MSc in Electrical Engineering – Electric Power Systems (MEESEE), Porto Higher Institute of Engineering (ISEP), IPP.

- The International Cooperation protocol between IFSC and IPP has already been signed.
  - ➢Areas of interest:
  - ➢Intelligent energy
  - ➢Electrical grids automation
  - ➢sustainable production technologiesHigh power installations project
  - ➢high power installations design
- The course follows international trends, devoting special attention to the challenges and opportunities of liberalized markets and such topics as electric mobility.

Double Degree IFSC- IPP

Objective

- Complement the academic curriculum and share differentiated information.
- In the destination institutions, the students will acquire more in-depth knowledge than in their institutions of origin as well as the basic knowledge considered relevant for employment in each country, thereby completing their degree and attaining a level worthy of a double degree.
- Experience and international background
- Maximum of 3 students per semester.

Double Degree IFSC- IPP

Framework

- Double degree between:

➢ Bachelor degree in **Electrical Engineering (EEL)**, Florianópolis Campus, IFSC.

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	7º sem	8º sem	9º sem	10º sem TCC

➢ Master degree in **Electrical Engineering – Power Systems (MEESEE)**, Porto Higher Institute of Engineering, (ISEP) at IPP.

1st Step - Bachelor degree ⟷ **2nd Step - Master degree** ⟷

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	1º sem	2º sem	3º sem	4º sem Dissert.

Double Degree IFSC- IPP

Course Structure

Degree in Electrical Engineering (EEL) at IFSC

Minimum requirement- 6 semesters

Equivalent credits should total 78 ECTS units

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	7º sem	8º sem	9º sem	10º sem TCC

On conclusion of 6 semesters, elaboration of a Study Plan

IFSC student

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	1º sem	2º sem	3º sem	4º sem Dissert.

Bachelor and Master degrees in Electrical Engineering, IPP

Double Degree IFSC- IPP

Course Structure

Degree in Electrical Engineering (EEL), IFSC

Minimum requirement 6 semesters

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	7º sem	8º sem	9º sem	10º sem TCC

Elaboration of a Study Plan on conclusion of the Bachelor's degree

IPP student

1º sem	2º sem	3º sem	4º sem	5º sem	6º sem	1º sem	2º sem	3º sem	4º sem Dissert.

Bachelor and Masters in Electrical Engineering, IPP

Equivalent CUs should total 720hrs

Double Degree IFSC- IPP

Double Degree

Bachelor degree in Electrical Engineering(EEL), IFSC

IFSC student

Master degree in Electrical Engineering, IPP

Bachelor degree in Electrical Engineering (EEL), IFSC

Aluno do IPP

Master degree in Electrical Engineering, IPP

Double Degree IFSC-IPP

Academic Semester

IFSC students who go to ISEP/P.Porto to participate in the Double Degree Program must obtain a **minimum total of 78 curriculum units, including the dissertation**.

The total of these units corresponds to the **60 basic curriculum units obtainable from two academic semesters plus 18 curriculum units from work which permits double certification**.

For ISEP/P.Porto students who go to IFSC Florianópolis Campus, entry to the double certification is guaranteed through **completion of 720 hours, equivalent to 2 academic semesters (on average), including the Final Course Project**.

The definition of CUs in one institute or the other must take into account course start and finish dates: **at ISEP/P.Porto, the first semester usually runs from September to February and the second semester runs from February to July. At IFSC**, however, **the semesters run from February to July and July to December**, respectively.

The course coordinators and directors at the destination institutes will approve the Study Plans and decide on any unforeseen cases that may arise.

Double Degree IFSC-IPP

Final Course Project/ Dissertation

During the period of mobility, students from ISEP/P.Porto and IFSC, respectively, should proceed with the Final Course Project (TCC) or the Dissertation (DSEE).

Both the TCC and the DSEE should be done with the collaboration of both institutes, involving a tutor from each institute. The practical work can be carried out in either or both of the institutes. The team of tutors will be comprised of professors (PhDs) or experts, all of recognized merit by both institutes.

Defense of the TCC and DSEE will occur before a panel of examiners from both institutions. This may occur via video conferencing to ensure the examiners from both institutions are present.

Double Degree IFSC-IPP

Call Notice - Edital 2019-2

➢ This will be published in June 2019;

➢ Three scholarships for (6) six months + 6 months (own resources or renewed via call notice)+ financial assistance for plane ticket will be offered;

➢ Criteria for selection will be outlined in the call notice. The main criteria is academic performance;

➢ Obtaining a visa will be the candidate's responsability. IFSC and ISEP/P.IPP will provide acceptance letters for Double Degree program.

Double Degree IFSC-IPP

Call Notice- student requirements EEL/IFSC

➢ Must have completed all curriculum units until and including the 6th Phase of the **Bachelor degree in Electrical Engineering (EEL)**, IFSC, Florianópolis Campus;

➢Must be enrolled on the course in curriculum units from the 7th, 8th and/or 9th phases;

➢ Must not be enrolled on the Final Course Project;

➢ Must participate in the Call Notice for candidate selection for the Double Degree program process.

Double Degree IFSC - IPS

INSTITUTO FEDERAL
SANTA CATARINA

IPS Instituto Politécnico de Setúbal

The **Polytechnic of Setúbal (IPS)** is a public higher education institute which is inserted in the polytechnic subsystem. The IPS emerged in Portugal from the creation of a new network of higher education polytechnics in 1979, initially integrating two schools in Setúbal: the School of Technology (ESTSetúbal) and the School of Education (ESSE). In addition to these two Schools, the IPS currently encompasses three more Schools: School of Business Studies (ESCE), Barreiro School of Technology (ESTBarreiro) and the School of Health (ESS). The activities from all five schools are coordinated by the Central Services. There is also a sixth organizational unit for student assistance, the Services for Social Action (SAS), which is responsible for accommodation, food, psychological support and sports and recreational activities.

ESCOLAS SUPERIORES

Escola Superior de Tecnologia de Setúbal
Escola Superior de Educação
Escola Superior de Ciências Empresariais
Escola Superior de Tecnologia do Barreiro
Escola Superior de Saúde

The Polytechnic of Setúbal is one of five Schools which cover a significantly broad range of knowledge and offer a wide spectrum of educational programmes, making it indispensable in the region and on a national level.

Double Degree IFSC- IPS

ESCOLA SUPERIOR DE TECNOLOGIA DE SETÚBAL (ESTSetúbal)

The Setúbal School of Technology (ESTSetúbal/IPS) was the first IPS school to be established, in 1979, with the aim of forming technicians qualified at the higher intermediate level in technological areas considered important to the local region and to the country.

ESTSetúbal/IPS combines science and knowledge, establishing bridges for the future and administering quality education supported by new technologies. The strong laboratory focus leads to greater sustainability of theoretical and practical components in the classes and to a better adaptation to the reality of the professional context.

In addition to the Bachelor degrees, ESTSetúbal/IPS also offers a vast range of Masters and post-graduate courses as well as certified training courses which provide continuity to the development of the students. The institute also offers post-secondary training courses, such as Technological Specialisation Courses (CET), which prepare highly specialized professionals in different technological areas.

Double Degree IFSC- IPS

INSTITUTO FEDERAL
SANTA CATARINA

IPS Instituto Politécnico de Setúbal

The Setúbal School of Technology (ESTSetúbal)

MSc in Electrical and Computer Engineering (MEEC)

The MSc in Electrical and Computer Engineering (MEEC) is divided into two areas of specialization: Renewable Energies and Power Systems (ERSP) and Computers and Communication Systems (CSC). This Masters provides specialization of a professional nature through an effective laboratory component and completion of a Dissertation/Project together with companies. This potentializes integration of the graduates into the job market.

If, on the one hand, there is a high level of versatility in the diverse areas of specialisation, on the other, the course provides an integrative view of the problems associated with these, ensuring na ability for intervention in the areas of each one of the specialisation profiles.

Objectives

The way in which the MSc in Electrical and Computer Engineering is structured allows for a high level of versatility in each of the specialisation areas. This enables an integrative view of associated problems and guarantees the ability for intervention in any of the specialisation profiles.

MSc in Electrical and Computer Engineering

Certification
Status: Certified
6 years of certifcation: from 5th July, 2013 to 4th July, 2019.
Certification A3ES

Professional Outputs

ERSP

- Industrial Production and Management
- Project, execution, Management, Exploration and Installation and Power Grid Maintenance
- Quality Control
- Management, Planning and Building Inspection

CSC

- Development, Project, production, configuration, maintenance and services of:
- Analogical and digital electronic systems
- Signal processing and integration of information and communication Technologies
- Computer networks

The Master in EEC student also has the competence for: coordination of project and development teams, I&D, Teaching and Training.

Double Degree IFSC- IPS

MSc in Electrical and Computer Engineering (MEEC)

Setúbal School of Technology (ESTSetúbal/IPS)

Cycle of studies in Electrical and Computer Engineering
Master's degree

Area of specialisation in Renewable Energies and Power Systems

1.º Ano

QUADRO N.º 3

Unidade curricular (1)	Área científica (2)	Organização do ano curricular (3)	Horas de trabalho								Créditos (6)	Observações (7)
			Total (4)	Contacto (5)								
				T	TP	PL	TC	S	E	OT	O	
Instalações Elétricas Especiais	ESP	Semestre 1	202,5		60					10		7,5	
Gestão de Energia Elétrica	ESP	Semestre 1	202,5		50	10				10		7,5	
Sistemas Microcontrolados	ET	Semestre 1	202,5		30	30				10		7,5	
Dinâmica de Máquinas Elétricas	ESP	Semestre 1	202,5		30	45						7,5	
Proteção e Comando em Sistemas de Energia Elétrica.	ESP	Semestre 2	202,5		50	10				10		7,5	
Sistemas de Geração e Armazenamento de Energia Renovável.	ESP	Semestre 2	202,5		40	20				10		7,5	
Qualidade da Energia Elétrica	ESP	Semestre 2	202,5		45	30						7,5	
Opção 1 (ERSP)	ESP/ET/ outra	Semestre 2	202,5		60					10		7,5	*a*)

a) A escolher de um elenco de unidades curriculares a fixar anualmente pelo Conselho Técnico-Científico da ESTSetúbal/IPS.

2.º Ano

QUADRO N.º 4

Unidade curricular (1)	Área científica (2)	Organização do ano curricular (3)	Horas de trabalho								Créditos (6)	Observações (7)
			Total (4)	Contacto (5)								
				T	TP	PL	TC	S	E	OT	O	
Sistemas de Gestão Técnica e Domótica	ESP	Semestre 1	175,5		60							6,5	
Opção 2 (ERSP)	ESP/ET/ Outras	Semestre 1	175,5		60							6,5	*a*)
Projeto de Conversores Aplicados às Energias Renováveis.	ESP	Semestre 2	135		10	50						5	
Dissertação/Projeto em ERSP	ESP	Anual	1134							45		42	

a) A escolher de um elenco de unidades curriculares a fixar anualmente pelo Conselho Técnico-Científico da ESTSetúbal/IPS.

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SANTA CATARINA

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THANK YOU VERY MUCH FOR YOUR ATTENTION!

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