CAMPUS **PARIS EIFFEL**

SUMMER **CERTIFICATE PROGRAM**

ECE PARIS
ÉCOLE D'INGÉNIEURS

ENERGY & ENVIRONMENT
SUMMER SEMINAR

Certificate awarded by: ECE Paris
Welcome event: July 3rd, 2017 (morning) **Start date of courses:** July 3rd, 2017 (afternoon)
End date: July 27th, 2017 **Certificate Ceremony:** July 27th, 2017
Total ECTS: 9 **Total contact hours:** 72
Program requirement: a minimum 18 years of age
Program location: ECE Paris - Campus Eiffel I, 10 Rue Sextius Michel, 75015 Paris, France
Language of instruction: English

PROGRAM FEE: 1,850€

FEE INCLUDES:

- Orientation/Welcome Event
- Weekly cultural visits/activities
- Computer accounts at the school (WIFI access)
- Access to the school's MediaCenter
- Official transcript of grades
- Program Certificate
- Certificate Ceremony

PROGRAM OVERVIEW/OBJECTIVE:

This seminar is composed of a set of 3 courses (3x24h, 3x3ECTS) ; its main objective is to provide students with engineering knowledge and techniques for understanding, assessing, and mitigating environmental issues associated with energy production, efficiency rating, storage, transmission, integration in existing portfolio, and consumption.

Students will learn :

- basic knowledge needed in order to understand today's energy challenges;
- basic theories of different sources of energy production, transport and storage, and how to perform feasibility studies related to the sources of energy;
- basic knowledge needed to quantify and evaluate any environmental impacts associated to energy production, transport, storage and use depending on the considered source of energy.

Successful student will be granted with a certificate.

CONTACT **summer@pariseiffel.fr**

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ENERGY & ENVIRONMENT SUMMER SEMINAR

PROGRAM COURSE LIST

Course Title	ECTS (credits)	Contact hours	Level (undergraduate or graduate)
Understanding "Energy & Environment" Issues	**3**	**24**	**undergraduate**
Power Generation, Transport & Storage	**3**	**24**	**undergraduate**
Sustainability & Environmental Concerns	**3**	**24**	**undergraduate**

COURSE 1

Course Title	Understanding "Energy & Environment" Issues
Learning outcomes	Students will learn basic knowledge needed in order to understand today's energy challenges. This course provides students with the basic knowledge needed for understanding, assessing, and mitigating environmental issues associated with energy production, efficiency rating, storage, transmission, integration in existing portfolio, and consumption.
Pre-requisites	Fundamentals of Physics, Mathematics and Chemistry
Recommended readings	The Politics and Institutions of Global Energy Governance by Thijs Van de Graaf. The Political Economy of Sustainable Energy by Catherine Mitchell. Energy and the Environment by Robert A. Ristinen & Jack P. Kraushaar.

COURSE CONTENT:

The course will be composed of 24h of face to face (lectures, tutorials or labs).

- Introduction : Getting Power to the People
- Global Energy Use & Supply
- The French Context

COURSE 2

Course Title	Power Generation, Transport & Storage
Learning outcomes	Students will learn basic knowledge needed to quantify and evaluate any environmental impacts associated to energy production, transport, storage and use depending on the considered source of energy. This course provides students with engineering knowledge and techniques for understanding, assessing, and mitigating environmental issues associated with energy production, efficiency rating, storage, transmission, integration in existing portfolio, and consumption.
Pre-requisites	Fundamentals of Physics, Mathematics and Chemistry
Recommended readings	Electric Power Generation, Transmission, and Distribution, Third Edition (Electric Power Engineering Series) Hardcover edited by Leonard L. Grigsby.

COURSE CONTENT:

The course will be composed of 24h of face to face (lectures, tutorials or labs).

- Thermodynamic Principles & Energy Conversion
- Fossil Power Plants
- Nuclear Power Plants
- Renewable Energy
- Power Transport & Storage

COURSE 3

Course Title	Sustainability & Environmental Concerns
Learning outcomes	Students will learn basic knowledge needed to quantify and evaluate any environmental impacts associated to energy production, transport, storage and use depending on the considered source of energy. This course provides students with engineering knowledge and techniques for understanding, assessing, and mitigating environmental issues associated with energy production, efficiency rating, storage, transmission, integration in existing portfolio, and consumption.
Pre-requisites	Fundamentals of Physics, Mathematics and Chemistry
Recommended readings	Sustainability (Polity Key Concepts in the Social Sciences series) by Leslie Paul Thiele.

COURSE CONTENT:

The course will be composed of 24h of face to face (lectures, tutorials or labs).

- Global Climatic Changes
- Environmental Effects of Fossil Fuels Combustion
- European & French Environmental Regulation
- Sustainability & CO^2 Assesment
- Water & Waste Management