

**AUTUMN SEMESTER**  
From September/October to January

# Optimal Engineering Design

## Optimal Design of Materials Performances and Complex Mechanics Systems

### Training Objectives

The departments of Materials, Structures and Mechanics Pole (MSM) of INSA Rennes train high-level industrial or research and development (R&D) engineers in the field of materials mechanics, optimal engineering design and structure's innovative analysis. The MSM Pole offer an autumn semester centred on optimal engineering design using novel and innovative techniques to improve and optimize materials performances, complex mechanical systems and engineering structures design. International students registered for this semester will join French students and will attend courses taught in English. Beside academic courses (scientific and economic, social & human's sciences) a team industrial or research project will be proposed.

### ECTS Credits

Studies are flexible thanks to a system of credits. A semester load for the proposed autumn semester at INSA Rennes is 30 ECTS. The student's choice has to be approved by both the home university and INSA Rennes. Departments of MSM Pole have designed a coherent package of credit courses in English to enable international students to undertake a semester period of study at INSA and obtain corresponding 30 ECTS credits. Exchange students may select others courses under the condition that the course is given during that first semester and is compatible with the autumn semester calendar.

### Syllabus

International students registered to this semester will join specific departments of MSM pole and will attend academic and scientific courses for an equivalent of 10 ECTS. English, French as a Foreign Language (FFL) and sport complement the scientific courses for an equivalent of 5 ECTS. The industrial or research project will occupy half of the time and be credited 15 ECTS.

Available Course	Written Material	Oral Class	Code	ECTS
Mechanical Systems			GMA09-SYSME	2.00
Renewable Energy			SGM09-ENER	1.00
Numerical Methods - Optimization			MAS03-MGC-UE3a	5.00
Accuracy of Robots & Machine-Tools			GMA09-VATR	2.00
Economics, Law & Business			ENS09-PM-X	2.00
English Conversation			ENS09-ANGL-CONV	1.00
French for Foreigners			ENSF1-FLEDEB	3.00
Sport and Physical Education			ENS07-EPS	1.00
Team Industrial/Research Project			GMA09-PI	15.00

## Practical Informations

Application deadline: May 31th

This non-fee-paying autumn-semester program-works on the basis of an exchange between the applicant's home University and INSA Rennes. Therefore, in order for fees to be waived, an agreement (Erasmus or other) must be established beforehand.

For a detailed description of the content of each course go to the INSA website:  
<http://www.insa-rennes.fr>

<http://www.insa-rennes.fr/en/courses/masters-in-engineering.html>

## CONTACT

For more information send your request to [international@insa-rennes.fr](mailto:international@insa-rennes.fr)

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 ET DE LA RECHERCHE