CENTRALE NANTES

Ingénieur grande école

graduate programme

3RD YEAR SPECIALISATION

DOCTORATE

Centrale Nantes offers a doctorate option to final year students who are attracted to the sciences and want to turn progressively towards research, developing expertise in order to embark upon a PhD.

The aim of this option is to propose a research pathway to students who wish to pursue a PhD. Thus, students devote most of their final year of study to commencing research work which they will then pursue with a PhD at Centrale Nantes.

Centrale Nantes thus offers a suitable course and naturally leads students who wish to engage in research towards a PhD.
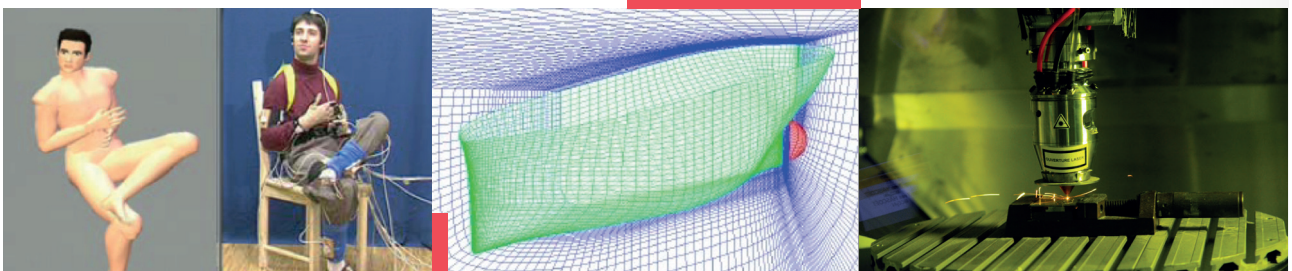
COURSE CONTENT

FROM SEPTEMBER TO THE END OF MARCH:

> Research work, replacing the specialisation

> Professional option

> Modern language classes and sport

> Possibility to attend some classes from the engineering programme

FROM APRIL UNTIL THE END OF SEPTEMBER:

> 6-month full-time paid internship on the thesis subject. The internship can be undertaken in a laboratory outside Centrale Nantes (including abroad), or in a company.

RESEARCH LABORATORIES

Centrale Nantes hosts six laboratories on campus in collaboration with the CNRS (the National Center for Scientific Research) and other institutions such as Nantes University and Institut Mines Télécoms:

> Research Laboratory in Hydrodynamics, Energetics & Atmospheric Environment - LHEEA

> Laboratory of Digital Sciences of Nantes - LS2N

> Research Institute in Civil and Mechanical Engineering - GeM

> Urban Architecture Nantes Research Centre - AAU

> Jean Leray Mathematical Institute

> High Performance Computing Institute - ICI

Our laboratories work on the three challenges for growth and innovation: manufacturing, health and energy transition. Their thematic coverage is therefore vast and heightens the versatility of our training programmes.

INDUSTRY SECTORS

> Industrial R&D
> Academia

TEACHING STAFF

HEAD OF SPECIALISATION:

Jean-Yves Hascoët

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EXAMPLES OF PHD THESES

> Ontological engineering for the creation and management of adaptive teaching resources

> Behaviour of recycled concrete at earlier and later ages: influence of initial water saturation and substitution rate

> Contribution to understanding the mechanisms of passivation in concrete reinforcements exposed to sea water: theory and thermochemical modelling

> Virtual reality tools for universal design

> Advanced methods and multi-scale analysis for the study of the self-healing of cracks in cementitious materials

> Ego-centred representations for the autonomous navigation of a humanoid robot

> Influence of image features on face portraits - social context interpretation: experimental methods, crowdsourcing based studies and models

> Deterministic modelling of large-scale sea states at variable depths

> Predictive control and estimation of uncertain systems with delayed input

> Model reduction method for parametric equations - Application to the quantification of uncertainty

> Input-state linearization and decoupling of nonlinear systems with delays

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GROUPE DES ÉCOLES
CENTRALE

L'ALLIANCE
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