



## MASTER'S DEGREE



### Location

Faculty of Health  
Pharmacy School  
16 boulevard Daviers  
49100 Angers - France

### Contact Details

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### Web page

[www.univ-angers.fr/  
masternanomedicines](http://www.univ-angers.fr/masternanomedicines)



**FACULTÉ  
DE SANTÉ**

UNIVERSITÉ D'ANGERS

## Pharmaceutical Sciences

# NANOMEDICINES AND PHARMACEUTICAL R&D

BECOME A STAKEHOLDER IN TOMORROW'S MEDICINE

### Overview

To become a stakeholder in the development of tomorrow's medicines, the Nanomedicines and Pharmaceutical R&D master's degree offers a scientific and methodological approach to pharmaceutical development and innovation for complex experimental drug products.

The skills acquired by the students are taught by a cross-disciplinary team including professors and researchers from the Faculty of Health (Pharmacy School) and Engineering School of the University of Angers, as well as researchers and professionals from the pharmaceutical industry.

### Objectives

Train managers and researchers in the pharmaceutical industry to develop complex experimental drug products, such as nanomedicines, in a translational research environment.

### Unique features

International training programme

All classes are in English

Cross-disciplinary team

Distinguished faculty and experts drawn from academia and the pharmaceutical industry

Case studies and role-playing

Scientific and career-oriented project assignment

Personalised support

### Further education & career prospects

This Master's degree may lead to a PhD (3-year research programme) within a company through a CIFRE (Convention Industrielle de Formation par la Recherche) or in an academic environment. It can also provide direct access to R&D jobs in health product companies.

#### Fields

Pharmaceutical industry, biotechnology, dermocosmetics, health products

#### Jobs

R&D formulation project managers

Science and technology monitoring managers

Research and technology transfer managers

Professors and Researchers

### Who is it designed for?

- Students who hold a one-year Master's degree in Pharmaceutical Sciences, Chemistry, Physics or Biology
- Students who have successfully completed their 5<sup>th</sup> year Pharmacy studies
- Students who hold an engineering degree (chemistry or physics/biology interface)
- Healthcare professionals (medicine, pharmacy, dentistry, veterinary medicine)



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## — Curriculum

### Semester 3:

<b>UE2.C. Prerequisite for pharmaceutical development</b>	<b>(3 ECTS)</b>
<b>UE2.I. Innovation engineering</b> Project management, Technology intelligence, Knowledge management, Creativity, Intellectual property, Collaborative engineering, Technology transfer.	<b>(4 ECTS)</b>
<b>UE2.N1. Applications and regulatory affairs</b> Definition, challenges and therapeutic solutions, European regulatory affairs, Quality by design, Design of Experiments, Case studies.	<b>(4 ECTS)</b>
<b>UE2.N2. Pharmaceutical development of nanomedicine: formulation development</b> Physicochemistry of raw materials, Formulation, Manufacturing process, Case studies.	<b>(4 ECTS)</b>
<b>UE2.N3. Pharmaceutical development of nanomedicine: analytical development</b> Design and development of analytical methods for the control of nanomedicine, Analysis procedures, Case studies.	<b>(4 ECTS)</b>
<b>UE2.N4. Non-clinical and clinical development of nanomedicine</b> Bioavailability and pharmacokinetics, Biodistribution, Cell interactions, Toxicology, Clinical trials, Case studies.	<b>(5 ECTS)</b>
<b>UE2.N5. Innovation project</b> Design and development of an innovative system, Project management, Team work.	<b>(5 ECTS)</b>
<b>UE2.N6. Personal development</b>	<b>(1 ECTS)</b>

### Semester 4:

6-month internship (January to June) in an academic research lab or in the pharmaceutical industry (R&D) in EU countries, the USA or Canada.

## — Please note

This postgraduate programme is open to international students, the training courses are in English. It is one of the study paths offered within the “Nanomedicine for drug delivery” (NANOMED) European Master’s degree (<http://master-nanomed.eu>).

Students may carry out internships abroad (EU countries, the USA, Canada). This international perspective prepare students for collaborative work worldwide

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