

Field of study **Sciences and engineering**

Training available in



#### How to apply :

L'admission se fait sur dossier. Il est important que le dossier comporte une attestation du diplôme requis, un relevé de notes, une lettre de motivation et éventuellement une lettre de recommandation.

Pour les candidats en France, les dossiers de candidature sont à déposer sur l'application eCandidat de l'université Gustave Eiffel.

Pour les candidats résidant à l'étranger, les dossiers de candidature sont à déposer via Etudes en France pour l'université.

#### Link to apply

<https://www.univ-gustave-eiffel.fr/la-formation/candidatures-et-inscriptions/candidatures>

RNCP : **39278**

#### Course venue:

Campus Marne la Vallée - Champs sur Marne - ESIEE PARIS 2  
boulevard Blaise Pascal 77420 Champs-sur-Marne

#### Calendar:

Work placements (15 ECTS, four months min.)

#### Contacts:

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#### More information:

Service Information,  
Orientation et Insertion Professionnelle (SIO-IP) :

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## Master's degree Computer Science Image sciences



Institut d'électronique et d'informatique Gaspard Monge  
(IGM)

Master M2

#### TO GET THERE

Admission to M2 requires four years of higher education after a high school diploma, or equivalent.

#### ACQUIRED SKILLS

The Master's provides students with the skills to efficiently perform image processing, implement deep learning systems for image processing and generation, create image synthesis rendering engines, implement virtual or augmented reality programmes or applications, and understand a wide range of theories around geometry and images.

Students will also develop their ability to create, manage and implement any computer science project generally related to images.

#### YOUR FUTURE CAREER

Graduates can apply for jobs in research and development at major companies in the image field (medical imaging, video games, digital post-production, mobile 3D technology, virtual and augmented reality) as well as development jobs specialised in 3D or image processing.

Many graduates pursue a PhD in the fields of image processing, vision, geometry or image synthesis.

#### BENEFITS OF THE PROGRAM

M2 in Image Sciences provides students with comprehensive understanding of all theoretical and practical fields of computer science relating to images, from the most theoretical to the most practical: mathematical morphology, geometric algebra, discrete geometry, artificial intelligence, image processing, computer vision, augmented reality, virtual reality, image synthesis and GPGPU. This course is affiliated with a renowned research team and is an applied Master's for the Bézout Labex. Non-French-speaking students who enrol in this course can attend classes in English.

More information



# PROGRAM

## SEMESTER 3

### Compétences transversales (ECTS: 6)

- Anglais
- Projet 3D pré-pro : Jeux Vidéo

### Géométrie et morphologie (ECTS: 9)

- Géométrie discrète
- Morphologie mathématique
- Géométrie projective

### Dispositifs Avancés pour l'image (ECTS: 6)

- Réalité virtuelle
- Architectures et Programmation parallèle pour l'Image

### Signal & I.A (ECTS: 9)

- Signal
- Machine learning
- Intelligence artificielle pour l'image

## SEMESTER 4

### Programmation pour l'image (ECTS: 6)

- General Purpose Graphic Processing Unit
- Programmation Avancée C++/Unity

### Synthèse d'images (ECTS: 9)

- Synthèse d'images avancée
- Synthèse d'image
- Moteur Physique & Simulation

### Stage (ECTS: 15)