



International Dual Master's Degree Program of Biomedical Engineering at Shanghai Jiao Tong University(China)-EMSE(France)

Introduction of SJTU and EMSE

Shanghai Jiao Tong University (SJTU), as one of the higher education institutions which enjoy a long history and a world-renowned reputation in China, is a key university directly under the administration of the Ministry of Education (MOE) of the People's Republic of China and co-constructed by MOE and Shanghai Municipal Government. Through 119 years' unremitting efforts, SJTU has become a comprehensive, research-oriented, and internationalized top university in China.

Established in 1816, and part of the French «Grandes Ecoles » system the School has held onto its core values: education, research, and dedication to economic development. Throughout its history, École des Mines de Saint-Etienne has been delivering academic programs and research relevant to the requirements of today's and tomorrow's business. In two centuries, the School has been transformed from an elite vocational school to a fully integrated graduate research college.

Biomedical Engineering at SJTU and EMSE

The Biomedical Engineering (BME) Program was first established at SJTU in 1979. After more than 30 years of rapid development, the School of BME was formally established. The BME program of SJTU has been ranked consistently in the top three in China and has the following unique advantages to support its rapid development into a world-class BME discipline: SJTU is very strong not only in engineering and physical sciences that have had a history over 100 years, but also in the ranked #1 clinical medicine with 12 top ranked affiliated hospitals in China. BME at SJTU has the following divisions: Biomedical Instrumentation, Neuroengineering, Medical Imaging and Informatics, disease biology, Nano Biomaterial and Systems Biology and Medicine.

Ecole des Mines de Saint-Étienne (EMSE) is one of the French graduate engineering schools (Grandes Ecoles) training engineers and carrying out industry-oriented research. Its function is to support the development of its students and of companies through a range of courses and fields of research, from the initial training of generalist engineers *ingénieurs civils des mines*, to PhD teaching; from material sciences to micro-electronics via process engineering, mechanics, the environment, civil engineering, finance, computer science and health engineering.



SJTU-EMSE Dual Master's Degree Program

SJTU-EMSE launched a Dual Master's Degree Program in 2015 and plan to select 15 students per year for the program.



Semesters for the Dual Master's Degree Programs



Application in January	Year 1 (Semester 1) (Sept.-Jan.)	Year 1 (Semester 2) (Jan.-June)	Year 2 (Semester 3) (Sept.-Jan.)	Year 2 (Semester 4) (Jan.-Sept.)
	SJTU	SJTU	EMSE	EMSE

or



Application in January	Year 1 (Semester 1) (Sept.-Jan.)	Year 1 (Semester 2) (Jan.-June)	Year 2 (Semester 3) (Sept.-Jan.)	Year 2 (Semester 4) (Jan.-Aug.)
	EMSE	EMSE	SJTU	SJTU

Major courses offered in SJTU-EMSE Dual Master's Program

SJTU- Mandatory

- Overview of Chinese Cultures
- Chinese
- Computational Method
- Matrix Theory
- Dialectics of Nature
- Socialism
- English

SJTU-Elective

- Neural Control of Movements
- Biomedical Optics
- Neural Signal Processing
- Advanced Digital Image Processing
- Bioheat and Mass transfer
- Neuroimaging
- Systems Biology: concepts, methodologies and applications
- Biomaterials and Tissue Engineering
- Computational Methods for Medical Imaging
- Cell biological Photonics
- Techniques for Neuromodulation
- Computer Vision in Biomedical Engineering
- Molecular Sensors and Nanodevices: Principles, Design and Applications in Biomedical Engineering
- Frontiers in Biomedical Engineering Seminar Series

EMSE-Conditionally Elective

- French as a foreign language
- Models and projects in engineering
- Year-long industrial project
- Introduction to cellbiology
- Introduction to anatomy and physiology
- Introduction to syntheticbiology
- Medicaldiagnosis tools
- Medicalimageanalysis
- Nano-medicine
- Nano-toxicity
- MD Medical-economic analysis
- Technical tours in hospitals and companies
- Innovation & project management in pharmaceutical industry
- Innovative companies
- Regulation in the health sector
- Marketaccessstrategy
- R&D project in health industry
- Case study
- Game theory
- International Finance
- Conferences
- Polymeric and metallic biomaterials
- Tissue engineering and bone substitutes
- Introduction to biology

Scholarships

Chinese Government Scholarship for International Students (www.sie.sjtu.edu.cn)

Chinese Government Special Scholarship for International Students (www.csc.edu.cn)

Shanghai Government Scholarship for International Students (http://www.study-shanghai.org/Scholarship_en.asp)

Deadline for Application

Deadline varies with the specific program, usually the application should be submitted in January, and the decision will be made by the end of March. Please contact the program secretary regarding the deadline of each program.

For more information, please contact:

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BME at SJTU



BME at EMSE