



## Introduction

The history of the School of Mechanical Engineering (ME) of Shanghai Jiao Tong University (SJTU) may date back to 1913. Over the past century, the School has cultivated tens of thousands of graduates who made significant contribution to the technological development and economic growth in the world as scientists, engineers, educators, statesmen and entrepreneurs. In the new century, the School adopted a vision of a world-class engineering school that offers the best learning experience to its students, the most rewarding working environment for its faculty and staff as well as the most effective service to the industry and the society.

The faculty, staff and students are the foundation of all that the School has been able to achieve. The School has a team of 458 faculty and staff members, of which 116 are full professors and 142 associate professors, and the student population is over 5,000. Each year, the School admits nearly 1,450 new students, 450 of which are enrolled in the Bachelor's degree programs, 350 in the Master's degree programs, 500 in the Professional Master's degree programs and 140 in the Doctoral degree programs. Over the past few years, the School has witnessed a substantial increase in the research funding it received. The School received 71.9 million USD in 2015, of which 40% was from the industry collaborative R&D projects and 60% was from the government funding.

# School of Mechanical Engineering

List of Ph.D. Programs	List of Master Programs
Mechanical Engineering	Mechanical Manufacturing and Automation
	Mechatronics
	Machine Design and Theory
	Vehicle Engineering
Industrial Engineering	Industrial Engineering
Power Engineering and Engineering Thermophysics	Engineering Thermophysics
	Thermal Energy Engineering
	Power Machinery and Engineering
	Fluid Machinery and Engineering
	Refrigeration and Cryogenic Engineering
	Fuel Cell
Nuclear Science and Engineering	Nuclear Science and Engineering

### ME Faculty

Total	Prof.	Assoc. Prof.	Assis. Prof.
335	116	142	77

16<sup>th</sup>

2013 QS World University Rankings by Subject  
- Engineering - Mechanical, Aeronautical & Manufacturing

9<sup>th</sup>

2016 US News University Ranking  
- Best Global Universities for Engineering



No.	Courses Offered in English	Semester
1	Digital Signal Processing	Fall
2	Wearable Systems	Fall
3	Vehicle Dynamics	Fall
4	Advanced Operations	Fall
5	Production and Operation Analysis	Fall
6	Elastic and Plastic Mechanics	Fall
7	Game Theory	Fall
8	Computer Graphics	Fall
9	Circulating Fluidized Bed Combustion	Fall
10	New Energy Systems	Fall
11	Computational Fluid Dynamics	Fall
12	Advanced Heat Transfer	Fall
13	Fundamentals and Practices of Advanced Aerodynamics Measurement Technologies	Fall
14	Factory Physics	Fall
15	Advance Engineering Thermodynamics	Spring & Fall
16	Basic Principle, Sensors and Systems for Mechanical Measurement	Spring
17	Tribology and Lubrication Theory	Spring
18	Structural Acoustics	Spring
19	Data Mining	Spring
20	Introduction to Discrete	Spring
21	Advanced Powertrain Technologies	Spring
22	Modern Vehicle Control Engineering	Spring
23	Machine Vision and its Applications	Spring
24	Micro Manufacturing	Spring
25	Combustion Chemical Kinetics	Spring
26	Multiphase Flow and Heat Transfer	Spring
27	Microfluid Flow and Heat Transfer	Spring
28	Advanced Fluid Dynamics in Engineering	Spring
29	Advanced Combustion Theory	Spring

## Key Laboratories

### 4 State Key Labs

State Key Lab for Mechanical Systems and Vibration  
 State Engineering Laboratory of Automotive Electronics Control  
 State Key Lab for Marine Shock and Vibration  
 State Engineering Laboratory for Reducing Coal Emissions.

### 2 MOE Key Labs

Power Machinery and Engineering  
 Solar Power and Refrigeration

### 2 Shanghai Labs

Digital Auto Body Engineering, Shanghai  
 Advanced Manufacturing Environment, Shanghai

## Priority Research Areas

### Mechanical Manufacturing

Manufacture Processing and Automation  
 Auto-body Design and Manufacture  
 Non-traditional Machining  
 Industrial Engineering  
 Intelligent Manufacturing

### Mechanical Design

Design Theory and Methodology  
 Mechanism and Mechanical Design  
 Artificial Prosthesis Design

### Mechatronics

Robotics and Bio-mechatronics  
 Precision Engineering and Control System Technology  
 Intelligence Robotics and Application in Industry

### Engine Combustion and Environmental Technology

Engine Combustion  
 Automotive Electrical Control Technology  
 Engine Supercharging  
 Fuel Production and Environmental Technology  
 Electrification in Automotive Powertrain System

### Energy Science and Technology

Turbomachinery  
 Energy and Combustion Science  
 Heat and Mass Transfer

### Vibration, Shock and Noise

Vibration Shock Theory, Application and Control  
 Noise Mechanism, Prediction and Control  
 Mechanical Informatics and Diagnosis

### Refrigeration and Heating, Ventilation and Air Conditioning (HVAC)

Energy Utilization in Refrigeration and HVAC Systems  
 Simulation and Digital Design of Refrigeration and HVAC Systems  
 Cryogenic Systems and Low Temperature Heat Transfer  
 HVAC green energy systems, Thermal comfort and IAQ

### Nuclear Science and Engineering

Advanced Nuclear Systems and Safety  
 Nuclear Fuel Cycle  
 Reactor Physics  
 Radiation Protection and Environment  
 Nuclear Thermal-Hydraulics  
 Reactor Structure and Material

## Contact

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