

# Master and Ph.D Degree Programs for Power Engineering and Engineering Thermophysics at School of Mechanical Engineering

## ■ School Introduction

The history of the School of Mechanical Engineering (ME), Shanghai Jiao Tong University (SJTU) dates back to 1913. Over the past century, the School has produced tens of thousands of graduates who make significant contribution to the technological development and economic growth in the world as scientists, engineers, educators, statesmen and entrepreneurs.

ME Faculty				School Ranking:
Total	Prof.	Assoc. Prof.	Assis. Prof.	
335	116	142	77	▲ Ranked <b>No.16</b> in 2013 QS World University Rankings by Subject - Mechanical, Aeronautical & Manufacturing Engineering ▲ Ranked <b>No.11</b> in 2016 US News College Rankings - Best Global Universities for Engineering

## ■ Program Overview

List of the Ph.D. Degree Programs	List of the Master Degree Programs
Power Engineering and Engineering Thermophysics	Engineering Thermophysics
	Thermal Energy Engineering
	Power Machinery and Engineering
	Fluid Machinery and Engineering
	Refrigeration and Cryogenic Engineering
	Fuel Cell

## ■ Priority Research Areas

### -Engine Combustion & Environmental Technology

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

### -Energy Science & Technology

Turbomachinery, Energy & Combustion Science, Heat & Mass Transfer

### -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

## ■ Main Courses

No.	Courses	Semester	No.	Courses	Semester
1	Fundamentals and Practices of Advanced Aerodynamics Measurement Technologies	Fall	14	Basic Principles of Sensors and Systems for Mechanical Measurement	Spring
2	Advanced Fluid Dynamics in Engineering	Fall	15	Advanced Engineering Thermodynamics	Fall/Spring
3	Digital Signal Processing	Fall	16	Tribology & Lubrication	Spring
4	Advanced Heat Transfer	Fall	17	Combustion Chemical Kinetics	Spring
5	Circulating Fluidized Bed Combustion	Fall	18	Multiphase Flow and Heat Transfer	Spring
6	Vehicle System Dynamics	Fall	19	Microfluid Flow and Heat Transfer	Spring
7	New Energy Systems	Fall	20	Introduction to Discrete	Spring
8	Advanced Operations	Fall	21	Data Mining	Spring
9	Computational Fluid Dynamics	Fall	22	Structural Acoustics	Spring
10	Wearable System	Fall	23	Advanced Automotive Powertrain Technology	Spring
11	Production and Operation Analysis	Fall	24	Automotive Control Engineering	Spring
12	Elastic & Plastic Mechanics	Fall	25	Chinese Culture	Fall
13	Game Theory	Fall	26	Chinese Language	Fall/Spring