# 2016 级统计学硕士研究生培养方案

所属学科门类：经济学
所属一级学科：应用经济学
所属院系：商务信息学院

## 一、培养目标

本专业旨在培养具有扎实的数学与统计理论基础，精通现代定量分析方法与技术，具有使用现代统计学方法和工具独立完成贸易、金融、商务领域数据分析的高层次、高素质的专门人才。毕业生既能在政府部门、金融机构和各类企事业单位从事宏观经济与微观经济信息管理、数量分析等工作，又能从事创新性科学研究工作或自主创业。

## 二、学制

本专业学制为 2.5 年。在规定时期完成课程学习，但未完成学位论文者，可申请延长学习年限，累计延长学习年限一般不超过一年。

## 三、研究方向

1、贸易统计
2、金融统计
3、统计与计量方法

## 四、课程设置与学分要求

本专业硕士研究生在攻读硕士学位期间应修满 40 学分，其中包括公共必修课 7 学分，学位基础课 16 学分，选修课 14 学分（其中跨专业选修课最少必须选择 2 学分），名师讲座 2 学分，社会实践 1 学分。具体课程安排和学分见附表。

## 五、社会实践及科研能力的培养

根据本专业的培养方案，对于统计学高级研究人才的培养，要求掌握概率论、统计推断、统计编程等基础课和专业课，掌握这些课程在科学研究中的应用能力。

对于统计学人才的培养，要求学生在研究生期间参加一定的社会实践。通过社会实践，培养学生的实践能力、分析问题和解决问题的能力以及综合运用所学基础知识和基本技能的能力，同时也为增强学生适应社会的能力和就业竞争力。社会实践内容的考核办法主要包括以下几个方面：（1）运用课堂学过的统计学知识来分析和思考社会实践过程中发生的事情；（2）总结社会实践中的经验与教训，并将这些经验与教训总结成案例；（3）掌握与实习单位有关行业的基本知识与基本技能；（4）总结有关行业的管理知识与基本技能。成果是围绕上述内容写一篇社会实践报告。

为了提高研究生学术科研能力，发挥研究生导师的研究指导作用，研究生在校期间必须在导师的指导下，从事统计科学研究，具备独立查阅前沿文献、明确科学问题以及初步进行科技创新的能力，并得到导师的认可。

## 六、培养方式与成绩考核

统计学专业的课程均采取讲授、讨论和专题研究的方式进行，对硕士研究生的培养实行导师负责制。

## 七、学位论文

硕士研究生的学位论文开题报告应在第四学期初完成,由本学科硕士生指导小组组织进行。学位论文的写作要求见《上海对外经贸大学硕士学位论文内容和格式要求（2013 年修订）》。

**附表：**

| 类别 | | 课程名称 | 第 1 学期 | 第 2 学期 | 第 3 学期 | 学时 | 学分 | 开课部门 |
|---|---|---|---|---|---|---|---|---|
| 公共课 | | 中国特色社会主义理论与实践研究（学位课） | 2 | | | 36 | 2 | 马克思主义学院 |
| | | 马克思主义与社会科学方法论研究 | 1 | | | 18 | 1 | 马克思主义学院 |
| | | 高级英语口语与写作 | 2 | | | 36 | 2 | 外语学院 |
| | | 探索性数据分析(英) | 2 | | | 36 | 2 | 信息学院 |
| 学位基础课 | | 高级微观经济学（I） | 3 | | | 54 | 3 | 经贸学院 |
| | | 高级宏观经济学（I） | 3 | | | 54 | 3 | 经贸学院 |
| | | 高等统计学 | 3 | | | 54 | 3 | 信息学院 |
| | | 线性模型理论 | | 2 | | 36 | 2 | 信息学院 |
| | | 统计计算 | | 2 | | 36 | 2 | 信息学院 |
| | | 高级计量经济学 | 3 | | | 54 | 3 | 信息学院 |
| 选修课 | 理论型（5选3） | 多元统计分析 | | 2 | | 36 | 2 | 信息学院 |
| | | 随机过程 | | 2 | | 36 | 2 | 信息学院 |
| | | 时间序列分析 | | 2 | | 36 | 2 | 信息学院 |
| | | 数据挖掘 | | | 2 | 36 | 2 | 信息学院 |
| | | 抽样理论与应用 | | | 2 | 36 | 2 | 信息学院 |
| | 应用型(模块I：贸易统计） | 国民经济核算理论与方法 | | 2 | | 36 | 2 | 信息学院 |
| | | 国际贸易 | | 2 | | 36 | 2 | 经贸学院 |
| | | 贸易统计 | | | 2 | 36 | 2 | 信息学院 |
| | | 经济指数理论与应用研究 | | | 2 | 36 | 2 | 信息学院 |
| | 应用型(模块II：金融统计） | 金融时间序列 | | 2 | | 36 | 2 | 信息学院 |
| | | 金融统计 | | 2 | | 36 | 2 | 信息学院 |
| | | 金融经济学 | | | 2 | 36 | 2 | 信息学院 |
| | | 风险管理 | | | 2 | 36 | 2 | 信息学院 |
| | 应用型(模块III：统计与计量方法研究） | 可靠性分析 | | 2 | | 36 | 2 | 信息学院 |
| | | 生存分析 | | 2 | | 36 | 2 | 信息学院 |
| | | 商业数据库管理 | | 2 | | 36 | 2 | 信息学院 |
| | | 空间统计学 | | 2 | | 36 | 2 | 信息学院 |
| | | R 语言与统计软件 | | 2 | | 36 | 2 | 信息学院 |
| | | 统计软件 SAS | | 2 | | 36 | 2 | 信息学院 |
| | | 贝叶斯统计 | | 2 | | 36 | 2 | 信息学院 |
| | | 数量经济学方法研究 | | 2 | | 36 | 2 | 信息学院 |
| | | 精算模型 | | | 2 | 36 | 2 | 信息学院 |
| | | 非参数统计 | | | 2 | 36 | 2 | 信息学院 |
| | | 广义线性模型 | | | 2 | 36 | 2 | 信息学院 |

| 类别 | 课程名称 | | | | 学时 | 学分 | 学院 |
|---|---|---|---|---|---|---|---|
| | 复杂数据分析 | | | 2 | 36 | 2 | 信息学院 |
| | 试验设计与建模 | | | 2 | 36 | 2 | 信息学院 |
| | 运筹学 | | | 2 | 36 | 2 | 信息学院 |
| 跨专业（最少必须选修2学分） | 创业管理专题 | | | 2 | 36 | 2 | 管理学院 |
| | 金融工程专题 | | 2 | | 36 | 2 | 金融学院 |
| | 高级微观经济学（II） | | 2 | | 36 | 2 | 经贸学院 |
| | 高级宏观经济学（II） | | 2 | | 36 | 2 | 经贸学院 |
| | 产业组织理论 | | 2 | | 36 | 2 | 经贸学院 |
| | 区域经济学 | | 2 | | 36 | 2 | 经贸学院 |
| | 固定收益证券研究 | | | 2 | 36 | 2 | 金融学院 |
| | 投资学专题 | | | 2 | 36 | 2 | 金融学院 |
| | 国际金融研究 | | | 2 | 36 | 2 | 金融学院 |
| | 电子商务 | | | 2 | 36 | 2 | 经贸学院 |
| | 名师讲座 | 8次 | | | | 2 | 信息学院 |
| | 社会实践 | | | | | 1 | 信息学院 |

# Master Program in Statistics 2016

Academic Field: Economics

Primary Discipline: Applied Economics

School offering the program: School of Business Information

## I. Program Objectives

This program aims to qualify students as professional statisticians needed in senior economic management. Students are expected to have solid theoretical foundation in mathematics and statistics, and to master the modern methods and techniques in data analysis. They will able to solve practical problems in economics, finance and business management using statistical methodology. They will have strong skills in data processing and computer programming. Graduates can be expect to work in government departments, financial institutions and all kinds of enterprises and institutions and to be engaged in macroeconomic and microeconomic information management, quantity analysis, etc, and work in the creative scientific research or start their own business.

## II. Duration of the Program

The normal duration of the program is two years and a half. Students who have successfully completed the coursework within the required time can apply for an extension of half a year, if they have not completed their dissertation. But generally, the total amount of time obtained by extensions cannot exceed one year.

## III. Field of Research

1. Trade Statistics

2. Financial Statistics

3. Statistical and Econometrical Methods

## IV. Courses and Credits

All students must earn 40 credits, including 7 "common required course" credits, 16 "required course" credits, 14 "optional course" credits (including 2 or more "cross-specialty optional course" credits) ，2 "lecture course" credits and 1 "social practice" credit. Specific course structure can be found in the appendix.

## V. Occupational Apprenticeship and Academic Training

According to the program plan, students who are going to be researchers are required to have a good knowledge of courses, such as probability theory, statistical inference, statistical methods and statistical programming. They are also required to apply the learned knowledge in scientific research.

For students who are going to be practical personnel, they are required to take part in social practice. Through social practice, we can equip students with practical abilities to analyze and solve problems by using the basic knowledge and skills they learned in this program. Hence, we can enhance the social adaptability and employment competitiveness. Social practice is to be assessed by the following: 1) Analyze and consider the events occurring in the course of social practice by knowledge of statistics learned in classrooms. 2) Sum up the experiences and lessons in social practice for case studies. 3) Command the basic knowledge and skill of the internship and the relevant industry. 4) Summarize the management knowledge and skills of the relevant industry.

The outcome of social practice is a report covering the above points.

To enhance postgraduate students' academic and scientific capability, the postgraduate student during his or her school period is required to undertake scientific research under his or her supervisor's instruction and gain the supervisor's approval.

## VI. Education Modes and Performance Assessment

All the courses will take the forms of intensive lectures, discussions and study in special topics. Master supervisors are responsible for the cultivation of their master students.

## VII. Dissertation

The proposal for dissertation should be completed at the beginning of the 4th semester, with the guidance by members of a panel. Please refer to "Layout Requirements for Graduates of Shanghai University of International Business and Economics (revised edition 2013)" for details.

**Attached Table：**

| Category | Course Name | Semester | | | Credit Hours | Credit | Department |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | | | |
| Common Required Courses | Socialist Theory and Practice with Chinese Characteristics ( Degree Course) | 2 | | | 36 | 2 | School of Marxism |
| | Research on Marxism and Methodology of Social Science | 1 | | | 18 | 1 | School of Marxism |
| | Advanced Speaking & Writing | 2 | | | 36 | 2 | School of Languages |
| | Exploratory Data Analysis | 2 | | | 36 | 2 | School of Business Information |
| Required Courses | Advanced Micro Economics（I） | 3 | | | 54 | 3 | School of Business |
| | Advanced Macro Economics（I） | 3 | | | 54 | 3 | School of Business |
| | Advanced Statistics | 3 | | | 54 | 3 | School of Business Information |
| | Statistical Programming | 3 | | | 54 | 3 | School of Business Information |
| | Linear Model | | 2 | | 36 | 2 | School of Business Information |
| | Statistical Computing | | 2 | | 36 | 2 | School of Business Information |
| | Advanced Econometrics | 3 | | | 54 | 3 | School of Business Information |
| Optional Courses | Theoretical (At least 3 in 5) | | | | | | |
| | Multivariate Statistics | | 2 | | 36 | 2 | School of Business Information |
| | Stochastic Process | | 2 | | 36 | 2 | School of Business Information |
| | Time Series Analysis | | 2 | | 36 | 2 | School of Business Information |
| | Survey Methodology | | | 2 | 36 | 2 | School of Business Information |
| | Sampling Theory | | | 2 | 36 | 2 | School of Business Information |
| | Module I Trade Statistics | | | | | | |
| | National Accounting | | 2 | | 36 | 2 | School of Business Information |
| | International Trade | | ，2 | | 36 | 2 | School of Business Information |
| | Trade Statistics | | | 2 | 36 | 2 | School of Business Information |
| | Economic Index | | | 2 | 36 | 2 | School of Business Information |
| | Module II Financial Econometrics | | | | | | |
| | Time Series Analysis in Finance | | 2 | | 36 | 2 | School of Business Information |
| | Financial Statistics | | 2 | | 36 | 2 | School of Business Information |
| | Financial Economics | | | 2 | 36 | 2 | School of Business Information |
| | Risk Management | | | 2 | 36 | 2 | School of Business Information |
| | Module III Quality Control and Management | | | | | | |
| | Reliability Analysis | | 2 | | 36 | 2 | School of Business Information |
| | Survival Analysis | | 2 | | 36 | 2 | School of Business Information |
| | Business Database Management | | 2 | | 36 | 2 | School of Business Information |
| | Spatial Statistics | | 2 | | 36 | 2 | School of Business Information |
| | R Langue and Statistical Software | | 2 | | 36 | 2 | School of Business Information |
| | Statistical Software(SAS) | | 2 | | 36 | 2 | School of Business Information |
| | Bayesian Statistics | | 2 | | 36 | 2 | School of Business Information |
| | Methods in Mathematical Economics Research | | 2 | | 36 | 2 | School of Business Information |
| | Experimental Design and Modeling | | | 2 | 36 | 2 | School of Business Information |
| | Actuarial Model | | | 2 | 36 | 2 | School of Business Information |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Nonparametric Statistics | | 2 | 36 | 2 | School of Business Information |
| | | Generalized Linear Model | | 2 | 36 | 2 | School of Business Information |
| | | Analysis of Complex Data | | 2 | 36 | 2 | School of Business Information |
| | | Operational Research | | 2 | 36 | 2 | School of Business Information |
| | Cross-specialty | Entrepreneurial Management | | 2 | 36 | 2 | School of Management |
| | | Topics in Financial Engineering | 2 | | 36 | 2 | School of Finance |
| | | Advanced Micro Economics（II） | 2 | | 36 | 2 | School of Business |
| | | Advanced Macro Economics （II） | 2 | | 36 | 2 | School of Business |
| | | The Theory of Industrial Organization | 2 | | 36 | 2 | School of Business |
| | | Topics in Regional Economics | 2 | | 36 | 2 | School of Business |
| | | Fixed income securities Research | | 2 | 36 | 3 | School of Finance |
| | | Topics in Investment | | 2 | 36 | 2 | School of Finance |
| | | Research in International Finance | | 2 | 36 | 2 | School of Finance |
| | | Electronic Commerce | | 2 | 36 | 2 | School of Business |
| | | Students are required to take at least one cross-specialty course for 2 credits. | | | | | |
| Lectures | | | eight times | | 36 | 2 | School of Business Information |
| Social Practice | | | | | | 1 | School of Business Information |