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# The Statistics Track

AMS website: <http://www.ams.sunysb.edu/>

## 1. Our faculty (in alphabetical order):

### Core faculty

Professor Hongshik Ahn ([Hongshik.Ahn@stonybrook.edu](mailto:Hongshik.Ahn@stonybrook.edu)), math tower 1-112  
Professor Stephen Finch ([Stephen.Finch@stonybrook.edu](mailto:Stephen.Finch@stonybrook.edu)), math tower 1-113  
Professor Pei-fen Kuan ([Peifen.Kuan@stonybrook.edu](mailto:Peifen.Kuan@stonybrook.edu)), math tower 1-106  
Professor Haipeng Xing ([Haipeng.Xing@stonybrook.edu](mailto:Haipeng.Xing@stonybrook.edu)), math tower 1-102  
Professor Song Wu ([Song.Wu@stonybrook.edu](mailto:Song.Wu@stonybrook.edu)), math tower 1-114  
Professor Wei Zhu ([Wei.Zhu@stonybrook.edu](mailto:Wei.Zhu@stonybrook.edu)), math tower P-138

### Affiliated faculty from the Department of Preventive Medicine

Professor Wei Hou ([Wei.Hou.1@stonybrook.edu](mailto:Wei.Hou.1@stonybrook.edu))  
Professor Barbara Nemesure ([Barbara.Nemesure@stonybrook.edu](mailto:Barbara.Nemesure@stonybrook.edu))  
Professor Xuefeng Wang ([Xuefeng.Wang@stonybrook.edu](mailto:Xuefeng.Wang@stonybrook.edu))  
Professor Jie Yang ([Jie.Yang@stonybrook.edu](mailto:Jie.Yang@stonybrook.edu))

**Other adjunct faculty:** <http://www.ams.sunysb.edu/people/AdjunctPostdoc.shtml>

## 2. Master course requirement (10 courses <30-credit>, no thesis):

Required Courses for M.S. Degree in Statistics Track

[AMS 507 Introduction to Probability](#) (Fall)  
[AMS 510 Analytical Methods for Applied Mathematics and Statistics](#) (Fall)  
[AMS 570 Mathematical Statistics I](#) (Spring)  
[AMS 571 Mathematical Statistics II](#) (required for PhD only) (Fall)  
[AMS 572 Data Analysis](#) (Fall)  
[AMS 573 Design and Analysis of Categorical Data](#) (Spring)  
[AMS 578 Regression](#) (Spring)  
[AMS 582 Design of Experiments](#) (Fall)  
[AMS 597 Statistical Computing](#) (Spring)

Plus two electives chosen from other graduate courses in the department or (with approval) graduate statistics courses in other departments. Some popular choices:

[AMS 577 Multivariate Data Analysis](#) (Fall)  
[AMS 588 Failure and Survival Data Analysis](#) (Fall)  
[AMS 598 Big Data Analysis](#) (Fall)  
[AMS 511 Foundation of Quantitative Finance](#) (Fall)  
[AMS 583 Longitudinal Data Analysis \(Spring\)](#) – a course that we will begin offering from Spring 2017 by Prof. Pei-fen Kuan  
[AMS 586 Time Series](#) (Spring) (\*Receiving grades of B- or better in both AMS578 and AMS586 – is considered as the equivalence of the **VEE Applied Statistics** in

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the **ASA Actuarial Exam**: <http://www.soa.org/education/exam-req/edu-asa-req.aspx>)  
**AMS 550 Stochastic Models** (Spring)

The first year graduate students (G1/G3) should take 4 courses (12-credit).

The second year graduate student (G2/G4) should take 3 courses (9-credit).

\*\*\* For the second year students who wish to take more than 3 courses per semester, you need to talk Prof. David Green (Graduate Program director) for permission first.

### **3. Recommended course schedule**

(1) **Year 1, Fall semester: AMS 507, AMS 510, AMS 572 plus one more course:**

– choice 1: AMS 595 (Fundamentals of Computing) (\*\* Note, for Fall 2016 only, it will be called AMS 691. It will cover basic UNIX and C/C++ programming. Very critical for a student of statistics to build up his/her programming skills.)

– choice 2: AMS 511 (for those of you who are truly interested in quantitative finance as well, and wish to get a QF graduate certificate. It is best you take this .)

**AMS 507 Introduction to Probability** [AMS 507 Webpage](#)

80347 LEC 01 MW 5:30-6:50PM Loc: Lt. Engineering 102 Inst: Jiaqiao Hu

**AMS 510 Analytical Methods for Applied Math and Statistics** [AMS 510 Webpage](#)

82492 LEC 02 TUTH 1:00-2:20PM Loc: Humanities 1003 Inst: Matthew Reuter

**AMS 572 Data Analysis I** [AMS 572 Webpage](#)

96643 LEC 02 TUTH 4:00-5:20PM Loc: Lt. Engineering 102 Inst: Pei Fen Kuan

**AMS 511 Foundation of Quantitative Finance** [AMS 511 Webpage](#)

81598 LEC 01 M 2:30-5:20PM Loc: Frey Hall 105 Inst: Robert Frey

**AMS 691 Topics in AMS - Fundamentals of Computing** [AMS 595 Webpage](#)

81948 LEC 01 MW 10:00-11:20AM Loc: Mathematics S235S Inst: Barbara Chapman

\*\* Those who consider themselves to have already a solid background in statistics (for example, our doctoral students), can consider taking **AMS 571 Mathematical Statistics** (Prof. Zhu), **AMS 582 Design of Experiments** (Prof. Finch, note: same time period as AMS 510), or **AMS 588 Failure and Survival Data Analysis** (Prof. Wu). Please be sure to consult the instructor for the course you wish to take first, sending them your CV/transcripts, so that they can decide whether you are ready.

**AMS 571 Mathematical Statistics** [AMS 571 Webpage](#)

Prerequisite: **AMS 570** is preferred but not required

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81561 LEC 01 TUTH 11:30AM-12:50PM Loc: Frey Hall 317 Inst: Wei Zhu

**AMS 582 Design of Experiments** [AMS 582 Webpage](#)

Prerequisite: **AMS 572** or equivalent

80342 LEC 01 TUTH 1:00-2:20PM Loc: Frey Hall 201 Inst: Stephen Finch

**AMS 588 Failure and Survival Data Analysis** [AMS 588 Webpage](#)

82167 LEC 01 TUTH 2:30-3:50PM Loc: Frey Hall 316 Inst: Song Wu

**\* Graduate students are expected to maintain a B or better grade average.**

**(2) Year 1, Spring semester: AMS 570, AMS 573, AMS 578, AMS 597.**

**(3) Year 2, Fall semester: AMS 577, AMS 582, AMS 588, AMS598 (\*\*Note you can graduate with your MS degree at the end of this semester for you have already taken at least 10 courses including all the core courses)**

**(4) \*\* Year 2, Spring semester: AMS 550, AMS 586 – plus another course in your area of interest. For example, if you are interested in QF, you may consider AMS 516 (Statistical Methods in Finance), or you can take AMS 583 Longitudinal Data Analysis – a course that we will start offering from Spring 2017.**

\*\* Given that the track of Statistics is highly correlated with the track of Quantitative Finance (QF), interested students can choose to take selected courses in QF and obtain the Advanced Certificate in Quantitative Finance as introduced below.

#### **4. Advanced Certificate in Quantitative Finance:**

Any strong student (3.5+ GPA in first-semester core courses) in another track may enroll in AMS 511, Foundation of Quantitative Finance. Selected students, with the permission of the Director of the Center for Quantitative Finance (Prof. Raphael Douady: [raphael.douady@stonybrook.edu](mailto:raphael.douady@stonybrook.edu)), may take additional quantitative finance courses and are eligible to earn an Advanced Certificate in Quantitative Finance. You must formally apply for the secondary certificate program prior to taking the required courses. Only a maximum of six credits taken prior to enrolling in the certificate program may be used towards the requirements. Please note that credits used toward your primary program may not be used toward the certificate program. The 15-credit advanced certificate requires AMS 511, 512, 513, one additional QF elective (such as AMS 516), and one additional Applied Mathematics course chosen with an advisor's approval (such as AMS 586). To apply download the registration form here:

[http://www.grad.sunysb.edu/pdf/forms/New\\_Forms/Permission%20to%20Enroll%20in%20a%20Secondary%20Program%20-%20Certificates%20Only.pdf](http://www.grad.sunysb.edu/pdf/forms/New_Forms/Permission%20to%20Enroll%20in%20a%20Secondary%20Program%20-%20Certificates%20Only.pdf)

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\*\*\* Permission to enroll in the certificate program will require the permission of Prof. Douady and the Graduate Program Director Prof. Xiangmin Jiao ([xiangmin.jiao@stonybrook.edu](mailto:xiangmin.jiao@stonybrook.edu)).

**5. Doctoral qualifying exam requirements:**

Our doctoral students are expected to take and pass the following doctoral qualifying exams in 1-2 years. Each exam is offered twice per year in January and June.

- (1) **Common Exam:** 3-hour close book exam covering AMS 507 and AMS 510.
- (2) **STAT Area Exam:** ***This is a 4-hour in-class exam with two parts:***
  - (i) *Math STAT Exam:* 2-hour close book exam covering AMS 570 and AMS 571.
  - (ii) *Applied STAT Exam:* 2-hour open book exam covering AMS 572, AMS 573, AMS 578, and AMS 582. Four books, 4 notes, & a calculator are allowed but no computers.

\*\*\* Students are expected to take and pass the Common Exam first before taking the STAT Area Exam. However, they are allowed to take both exams together. Also, our master students in good standing can take these doctoral qualifying exams.

We urge those of you who wish to take the qualifying exams to study for the exams early. Please check out the outlines of these exams in the following website – and please note that at the end of the page, you have a link to past qualifying exam questions. Prepare early for success.

<http://www.stonybrook.edu/commcms/ams2/graduate/quals%20website.html>

6. Prof. Xiangmin Jiao ([xiangmin.jiao@stonybrook.edu](mailto:xiangmin.jiao@stonybrook.edu)), our graduate program director. <http://www.ams.sunysb.edu/~jiao/> Office: Math Tower P-137. Please get to know Prof. Jiao as soon as you can as he is in charge of all general policies and permissions regarding your graduate studies.
7. Ms. Christine Rota ([christine.rota@stonybrook.edu](mailto:christine.rota@stonybrook.edu)) Office: Math Tower P-141, our graduate program secretary. Christine is definitely someone you will find most helpful, from time to time.

*Be safe and diligent;  
We wish you all the successes!*