



# Stanford

Stanford University

STATS--PHD



## 01 Program Overview

### Introduction

Rank: **#1** in Statistics

Locations: Stanford, California

Website: <https://bulletin.stanford.edu/programs/STATS-PHD>

Application deadline for PhD Autumn Quarter 2025 is Wednesday, December 4, 2024 (11:59PM PST).

The department looks for students who wish to prepare for either **applied** or **theoretical** research careers in statistics or probability.

Entry advice: Advanced undergraduate or master's level work in mathematics and statistics provides a good background for the doctoral program. Quantitatively oriented students with degrees in other scientific fields are also encouraged to apply for admission.



## 02 Financial Aid & Support



Please note that requesting financial aid on the application form will not affect your chances of being admitted to the Statistics PhD program. Prospective students should review the estimated expenses associated with graduate study at Stanford.

Students accepted to the PhD program are offered financial support. All tuition expenses are paid, and a fixed monthly stipend is determined to be sufficient to pay living expenses. For students in good standing, financial support can be continued for five years, department resources permitting. The resources for student financial support derive from

- funds made available for student teaching and research assistantships. Students receive both a teaching and research assignment each quarter, which do not exceed 20 hours together.

Students are encouraged to apply for outside scholarships, fellowships, and other financial support.

Select a doctoral program:

H&amp;S Division of Natural Sciences — Statistics

How long does it take to graduate with a PhD in Statistics? How does this compare to the entire H&S Division of Natural Sciences?

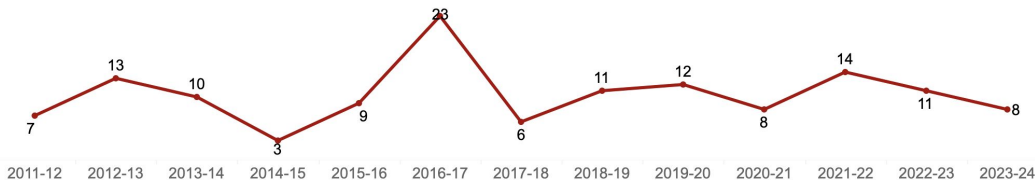
4.7 yrs

Median Time-to-Degree for the 53 graduates of the Statistics PhD program from Summer 2019 through Spring 2024

5.5 yrs

Median Time-to-Degree for the 687 doctoral graduates in the H&S Division of Natural Sciences from Summer 2019 through Spring 2024

How many PhD degrees are conferred annually in Statistics?



83.3% of Statistics PhD students graduate in 6 years or less.

(Based on 36 students starting between Summer 2016 and Spring 2019)

83.3% of Statistics PhD students can graduate in 6 years or less!

The Median Time-to-Degree for the 53 graduates of the Statistics PhD program from 2019 through Spring 2024 is 4.7 years.

## 04 Procedure--What do we need to submit?

### 1. Academic Background:

Advanced undergraduate or **master's-level coursework in mathematics and statistics** is recommended.

- Applicants from other quantitative fields (e.g., computational biology, mathematical finance, information science) are encouraged if they have a strong quantitative background

### 2. GRE Scores:

- The **GRE General Test** is required, with no specific minimum score. However, successful applicants often have high scores, averaging in the **92nd percentile** for Verbal, **94th for Quantitative**, and **83rd for Analytical Writing**.
- The GRE Math Subject Test is optional starting May 2024, but submitted scores will be considered.

### 3. TOEFL Scores (for non-native English speakers):

- A minimum TOEFL iBT score of 100 is required. Students with scores below 109 may need additional English placement testing.
- The average TOEFL score of admitted applicants is around 112

### 4. Transcripts and GPA:

- A GPA of **at least 3.5** is strongly recommended, although there is no strict minimum.

### 5. Statement of Purpose:

- Applicants must provide a clear statement of research interests and motivations for pursuing a PhD in Statistics.

### 6. Letters of Recommendation:

- Typically, **three strong recommendation** letters are required.

### 7. Additional Application Materials:

- A resume or CV, along with any other supporting materials, may be requested.

## 05 Program Requirements



Students are required to:

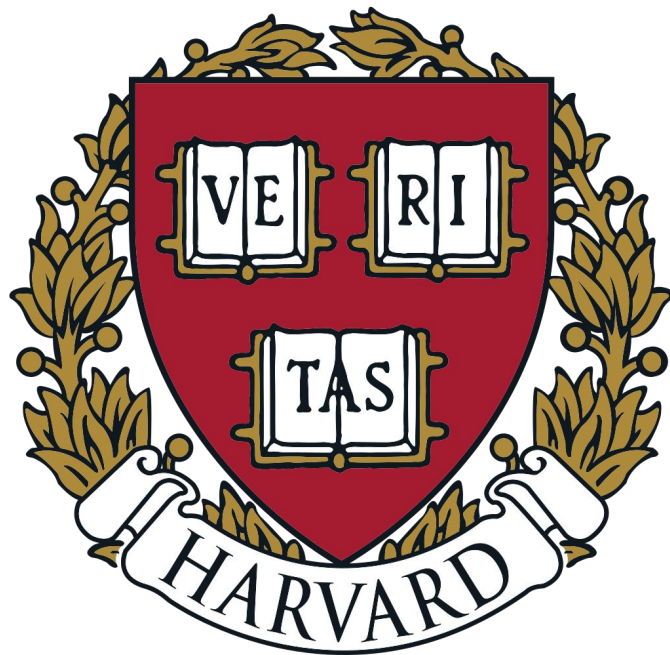
1. Master the material in the prerequisite courses
2. Pass the first-year core program
3. Attempt all three parts of the **qualifying examinations** and show acceptable performance in **at least two** of them (end of 1st year)
4. Confirm a principal dissertation research advisor and file for candidacy (early spring quarter of 2nd year)
5. Satisfy the depth and breadth requirements (2nd/3rd/4th year)
6. Successfully complete the **thesis proposal meeting** and submit the **Dissertation Reading Committee** form (winter quarter of the 3rd year)
7. Present a draft of their dissertation and pass the university **oral examination** (4th/5th year)

The PhD requires a minimum of **135** units. Students are required to take a minimum of nine units of advanced topics courses (for depth) offered by the department (not including literature, research, consulting or Year 1 coursework), and a minimum of nine units outside of the Statistics Department (for breadth). Courses for the depth and breadth requirements must equal a combined minimum of **24** units. In addition, students must enroll in STATS 390 Statistical Consulting, taking it at least twice.

# HARVARD UNIVERSITY

Harvard University is a private Ivy League research university in Cambridge, Massachusetts, United States. Founded October 28, 1636, and it is the oldest institution of higher learning in the United States. Its influence, wealth, and rankings have made it one of the most prestigious universities in the world.

The department of Statistics ranked 3rd in the U.S. Founded in 1957, the deep interplay between application, computation, and theory is the cornerstone of our community, as well as the backbone of data science.





# HARVARD Kenneth C. Griffin

## GRADUATE SCHOOL OF ARTS AND SCIENCES

### Department of Statistics

- PHD in Statistics
- MA in Statistics (not accept outer applications since 2017)
- Admission decision will be made by Committee.

APPLICATION DEADLINE

### Degrees Offered

Doctor of Philosophy (PhD)

**Deadline: Dec 01, 2024 | 05:00 pm**

[!\[\]\(e8fb589d58dad1692debababa5e928b6\_img.jpg\) Apply](#)

### Estimate of Amount Due

Amount due upon submission (USD): **\$105.00**

Statistics is an indispensable pillar of modern science, including data science and artificial intelligence.

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# Admission Requirements

- English Proficiency
  - Waive;
  - IELTS  $\geq 6.5$  / TOEFL(iBT)  $\geq 80$
- Resume (**Required**)
- Personal Statement:  $\leq 500$  words, **Required**.
- Statement of Purpose:  $\leq 1000$  words, **Required**.
- Standardized Tests:
  - GRE General (Optional)
  - GRE Subject: (Optional)
- Academic Background:
  - Requirements: Linear Algebra, Advanced Calculus.
  - Measure Theory and Analysis will be helpful to the application.
  - Have the experience of statistical computational and simulation.
- Recommend Letter:
  - 3 Letters
  - Submit **before Deadline**.



HARVARD  
UNIVERSITY

# Financial Aid

- Tuition Fee
- First 2 years: Full Time, \$55,656/ year
- Financial Aid will cover all the tuitions and other expenses (\$4500/month).

## Graduation Data

	PHD in Statistics		MA in Statistics
	Graduation	Admission	Graduation
2024	5	3	
2023	5	7	
2022	5	11	
2021	3	4	
2020	5	10	
2019	8		5*
2018	8		5*

# PHD Program Timeline

- Course Requirement:
- PHD Qualification Test:
  - Theory Test: STAT210~213 Course, waive if all get A- or above. (G2 Spring Examination)
  - Applications: STAT305 course & presentation, or 30 min presentation before G3 spring.
  - Oral Presentation: 30 minutes G2 year
  - **Quitted this program if any one of tests are not passed.**
- Post-Qualifying Talks (Research Presentation): Introducing the previous research and progress.
- Dissertation: G3 year, submit the topic of essay to supervisor. & Abstract (1 page).
- Dissertation Defence:
  - 4 weeks ago: submit draft version. Start from G3
  - In G6 or higher, at least report the progress to supervisor yearly.
  - Application to PHD Degree: November, February, May

Source: <https://gsas.harvard.edu/policy/statistics>

# Future Development

- Faculty Position:
  - Stanford
  - Upenn
  - Berkeley
  - JHU
  - Carnegie Mellon University
  - Columbia University
  - GIT
  - ...
- Career Development:
  - Google
  - Apple
  - Etsy
  - Citedal
  - Boston Red Sox
  - ...

# University of Chicago

- The **University of Chicago** is a private research university in Chicago, Illinois, United States
- Statistics ranked 4th in the U.S.
- The PHD program is offered by the Department of Statistics in the Physical Sciences Division



# Application Requirements

- candidate statement
- CV or resume
- Transcripts for all post-secondary education
- Three letters of recommendation
- An official GRE score report(strongly recommend)
- GRE Mathematics Subject Test (strongly encouraged)
- An official TOEFL or IELTS score report (we can waived)
- The application deadline is January 6

# Prerequisites for the Program

- A student applying to the PhD program normally should have taken courses in **advanced calculus, linear algebra, probability, and statistics**. Additional courses in mathematics, especially a course in **real analysis**, will be helpful. Some facility with **computer programming** is expected.

THE UNIVERSITY OF  
CHICAGO

# First year course works and Preliminary exams

The course work includes four core sequences:  
Probability (STAT 30400, 38100, 38300)

Mathematical statistics (STAT 30400, 30100, 30210)

Applied statistics (STAT 34300, 34700, 34800)

Computational mathematics and machine learning (STAT 30900, 31015/31020, 37710).





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- Second year: students are expected to find a dissertation/thesis advisor by the end of the second year
- Third year: each PhD student shall establish a committee of at least three members, at least two of whom should be from Statistics.
- Fourth year: students should have completed a proposal presentation to their committee. This consists of a written report on completed and planned research with relevant references and a meeting with the committee discussing the proposed research
- Fifth year: The Department goal is for the majority of students to complete and defend their thesis by the end of their 5th year.





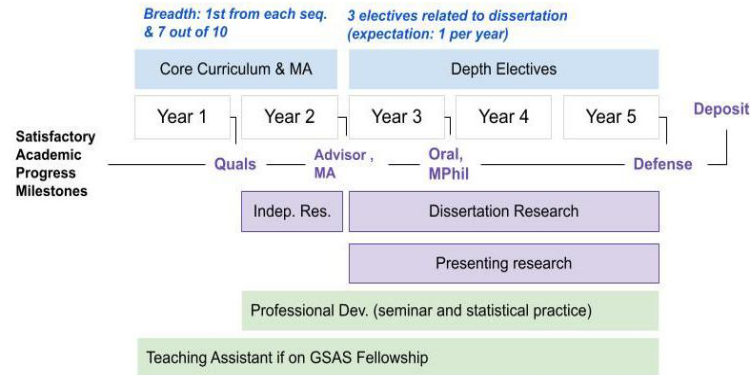
DEPARTMENT OF STATISTICS  
COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

# Columbia University

<https://stat.columbia.edu/>

# PhD Program Overview

The PhD program prepares students for research careers in probability and statistics in academia and industry. Students admitted to the PhD program **earn the MA and MPhil** along the way. **The first year of the program is spent on foundational courses** in theoretical statistics, applied statistics, and probability. In the following years, students take advanced topics courses. **Research toward the dissertation typically begins in the second year.** Students also have opportunities to take part in a wide variety of projects involving applied probability or applications of statistics.



**By the end of year 1: passing the qualifying exams**

**By the end of year 2: fulfilling all course requirements for the MA degree and finding a dissertation advisor**

**By the end of year 3: passing the oral exam (dissertation prospectus) and fulfilling all requirements for the MPhil degree**

**By the end of year 5: distributing and defending the dissertation**

# Requirement

Suggested Prerequisites: A student admitted to the PhD program normally has a **background in linear algebra and real analysis, and has taken a few courses in statistics, probability, and programming**. Students who are quantitatively trained or have substantial background/experience in other scientific disciplines are also encouraged to apply for admission.

GRE requirement: **Waived** for Fall 2024.

Language requirement: The English Proficiency Test requirement (TOEFL) is a Provost's requirement that cannot be waived. **100 (IBT), 600 (PBT) TOEFL, or 7.5 IELTS**.

**Deadline: Jan 8, 2024**

Application process: Please apply by completing the **Application for Admission to the Columbia University Graduate School of Arts & Sciences**.

Timeline: P.hD students begin the program in September only. **Admissions decisions are made in mid-March** of each year for the Fall semester.

# Carnegie Mellon University

Generally a specific degree requirement is not stated, so I had to make a subjective selection based on how relevant the master may be to statistics studies

## Phd Statistics

- Four joint programs: ML, Public policy, Neuroscience, Engineering and Policy. ML and Engineering: indicate after admission to stats phd. The others: indicate when applying for stats phd.
- Funding: full tuition + stipend for RA/TA.
- December 8 deadline.
- Transcripts, statement of purpose, 3 recommendation letters, GRE (optional for stats phd, required for joint), TOEFL/IELTS/DET **not** required for Columbia students

## PhD Operations Research

- Deadline 15 December.
- A minimum of 3 max 5 recommendation letters (along with evaluation form); at least 1 from academic source, at least 1 from work source if more than 1 year of work experience. GMAT or GRE required. TOEFL, DET, IELTS required.
- Funding: if you get it (typically you do) guaranteed for 5 years stipend. No tuition fee as long as in good academic standing

## PhD Machine Learning

- Early deadline 20 nov; Final deadline 11 dec
- GRE optional; TOEFL/IELTS/DET required; statement of purpose 1-2 pages; 3 letters; CV
- Funding: tuition waived, stipend from graduate assistantships, which may constrain specific research opportunities.

Other programs in Tepper school of business, less relevant, include:

- Business technologies
- Economics
- Financial Economics