Statistics

The Department of Statistics offers the Master of Arts (MA) and Doctor of Philosophy (PhD) degrees.

Master of Arts (MA)

The Statistics MA program prepares students for careers that require statistical skills. It focuses on tackling statistical challenges encountered by industry rather than preparing for a PhD. The program is for full-time students and is designed to be completed in two semesters (fall and spring).

There is no way to transfer into the PhD program from the MA program. Students must apply to the PhD program.

Doctor of Philosophy (PhD)

The Statistics PhD program is rigorous, yet welcoming to students with interdisciplinary interests and different levels of preparation. The standard PhD program in statistics provides a broad background in probability theory and applied and theoretical statistics.

There are three designated emphasis (DE) tracks available to students in the PhD program who wish to pursue interdisciplinary work formally: Computational and Data Science and Engineering (https://data.berkeley.edu/decdse/), Computational and Genomic Biology (http://ccb.berkeley.edu/academics/designated-emphasis/) and Computational Precision Health (https://computationalhealth.berkeley.edu/designated-emphasis/).

Admission to the University

Applying for Graduate Admission

Thank you for considering UC Berkeley for graduate study! UC Berkeley offers more than 120 graduate programs representing the breadth and depth of interdisciplinary scholarship. The Graduate Division hosts a complete list (https://grad.berkeley.edu/admissions/choosing-your-program/list/) of graduate academic programs, departments, degrees offered, and application deadlines can be found on the Graduate Division website.

Prospective students must submit an online application to be considered for admission, in addition to any supplemental materials specific to the program for which they are applying. The online application and steps to take to apply can be found on the Graduate Division website (https://grad.berkeley.edu/admissions/steps-to-apply/).

Admission Requirements

The minimum graduate admission requirements are:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A satisfactory scholastic average, usually a minimum grade-point average (GPA) of 3.0 (B) on a 4.0 scale; and
3. Enough undergraduate training to do graduate work in your chosen field.

For a list of requirements to complete your graduate application, please see the Graduate Division's Admissions Requirements page (https://grad.berkeley.edu/admissions/steps-to-apply/requirements/). It is also important to check with the program or department of interest, as they may have additional requirements specific to their program of study and degree. Department contact information can be found here (https://guide.berkeley.edu/archive/2024-25/graduate/degree-programs/).

Where to apply?

Visit the Berkeley Graduate Division application page (http://grad.berkeley.edu/admissions/apply/).

Admission to the Program

In addition to the minimum requirements listed above, the following materials are required for admission:

1. **The Online Graduate Application for Admission and Fellowships (http://grad.berkeley.edu/admissions/apply/):**
2. **Statement of Purpose (http://grad.berkeley.edu/admissions/state_purpose.shtml/) :** Why are you applying to this program? What are your expectations for this degree? Where do you want this degree to take you, professionally and personally? How will your professional and personal experiences add value to the program?
3. **Personal History (http://www.grad.berkeley.edu/admissions/personal_statement.shtml/)Statement (http://www.grad.berkeley.edu/admissions/personal_statement.shtml/) :** What past experiences made you decide to go into this field? How will your personal history help you succeed in this program and your future goals?
4. **Descriptive List of Upper Division/Graduate Statistics and Math Coursework:** Please include a Descriptive List of Upper Division/Graduate Statistics and Math Coursework. List the department, course number and title, instructor, grade, school, texts used and subject matter covered for all upper division and graduate level statistics and math courses you have taken. You should also include courses outside statistics and math departments that have a significant quantitative component. This list should be uploaded as a PDF document via the online application.
5. **GPA Worksheet**: Please upload a GPA calculation worksheet.
6. **Resume:** Include a full resume/CV listing your experience and education.

The application process is entirely online. All supplemental materials such as transcripts and the descriptive list of courses must be uploaded as PDF files via the online application by the application deadline. Please do not mail copies of your transcripts, statement of purpose, letters of recommendations, GRE and TOEFL scores, resumes, or any other documents as they will not be included with your application.

The GRE is no longer required for applicants applying to the MA or PhD program. For the PhD program, while it is not required, if you wish to include your GRE Math Subject test you will have the option to do so.

For more information about graduate programs in statistics, including admission information, please visit our graduate programs page (https://statistics.berkeley.edu/academics/programs/).

Normative Time Requirements

Normative Time to Advancement

In the first year, students must perform satisfactorily in preliminary course work. In the summer, students are required to embark on a short-term research project, internship, graduate student instructorship, reading course, or on another research activity.

In the second and third years, students continue to take courses, serve as a graduate student instructor, find an area for the oral qualifying exam, a potential thesis adviser and pass the oral qualifying exam in the spring semester of second year or in the fall semester of third year. With the successful passing of the exam, students then advance to candidacy.

Normative Time in Candidacy

In the third and fourth years, students finalize a thesis topic, continue to conduct research and make satisfactory progress.

By the end of the fifth year, students are expected to finish their thesis and give a lecture based on their work in a department seminar.

Total Normative Time

Total normative time is five years.

Time in Advancement

Curriculum

During their first year, students are normally expected to take four of the following seven core PhD courses in Probability, Theoretical Statistics, and Applied Statistics:

Courses Required		
STAT 204	Probability for Applications	4
STAT C205A	Probability Theory	4
STAT C205B	Probability Theory	4
STAT 210A	Theoretical Statistics	4
STAT 210B	Theoretical Statistics	4
STAT 215A	Applied Statistics and Machine Learning	4
STAT 215B	Statistical Models: Theory and Application	4

A member of the PhD program committee may consent to substitute courses at a comparable level in other disciplines for some of these departmental graduate courses. These requirements can also be altered by the PhD program committee.

Students entering the program before 2022 are required to **take five additional graduate courses** beyond the four required in the first year, resulting in a total of nine graduate courses required for completion of their PhD. In their second year, students are required to take three graduate courses, at least two of them from the department offerings, and in their third year, they are required to take at least two graduate courses. Students are allowed to change the timing of these five courses with approval of their faculty mentor. Of the nine required graduate courses, students are required to take for credit a total of 24 semester hours of courses offered by the Statistics department numbered 204-272 inclusive. The Head Graduate Advisor (in consultation with the faculty mentor and after submission of a graduate student petition) may consent to substitute courses at a comparable level in other disciplines for some of these departmental graduate courses. In addition, the HGA may waive part of this unit requirement.

Starting with the cohort entering in the 2022-23 academic year, students are required to **take at least three additional graduate courses** beyond the four required in the first year, resulting in a total of seven graduate courses required for completion of their PhD. Of the seven required graduate courses, five of these courses must be from courses offered by the Statistics department and numbered 204-272, inclusive. With these reduced requirements, there is an expectation of very few waivers from the HGA. We emphasize that these are minimum requirements, and we expect that students will take additional classes of interest, for example on a S/U basis, to further their breadth of knowledge.

For courses to count toward the coursework requirements students must receive at least a B+ in the course (courses taken S/U do not count, except for STAT 272 which is only offered S/U). Courses that are research credits, directed study, reading groups, or departmental seminars do not satisfy coursework requirements (for courses offered by the Statistics department the course should be numbered 204-272 to satisfy the requirements). Upper-division undergraduate courses in other departments can be counted toward course requirements with the permission of the Head Graduate Advisor. This will normally only be approved if the courses provide necessary breadth in an application area relevant to the student's thesis research.

Qualifying Examination

The oral qualifying examination is meant to determine whether the student is ready to enter the research phase of graduate studies. It consists of a 50-minute lecture by the student on a topic selected jointly by the student and the thesis advisor. The examination committee consists of at least four faculty members to be approved by the department. At least two members of the committee must consist of faculty from the Statistics and must be members of the Academic Senate. The chair must be a member of the student's degree-granting program.

Time in Candidacy

Advancement

Advancing to candidacy means a student is ready to write a doctoral dissertation. Students must apply for advancement to candidacy once they have successfully passed the qualifying examination.

Dissertation Presentation/Finishing Talk

The Ph.D. degree is granted upon completion of an original thesis acceptable to a committee of at least three faculty members. The majority or at least half of the committee must consist of faculty from Statistics and must be members of the Academic Senate. The thesis should be presented at an appropriate seminar in the department prior to filing with the Dean of the Graduate Division.

Required Professional Development

Students enrolled in the graduate program before fall 2016 are required to serve as a Graduate Student Instructor (http://statistics.berkeley.edu/employment/gsi-and-reader/) (GSI) for a minimum of 20 hours (equivalent to a 50% GSI appointment) during a regular academic semester by the end of their third year in the program.

Effective with the fall 2016 entering class, students are required to serve as a Graduate Student Instructor (http://statistics.berkeley.edu/employment/gsi-and-reader/) (GSI) for a minimum of two regular academic semesters and complete at least 40 hours prior to graduation (20 hours is equivalent to a 50% GSI appointment for a semester) for a

course numbered 150 and above. Exceptions to this policy are routinely made by the department.

Unit Requirements

In order to obtain the MA in Statistics, admitted MA students must complete a minimum of 24 units of courses and pass a comprehensive examination.

In extremely rare cases, a thesis option may be considered by the MA advisers. Typically, this will be when either the option has been offered to the student at the time of admission, or if the student arrives with substantial progress in research in an area of interest to our faculty.

Curriculum

Courses Required

STAT 201A	Introduction to Probability at an Advanced Level	4
STAT 201B	Introduction to Statistics at an Advanced Level	4
STAT 243	Introduction to Statistical Computing	4
STAT 230A	Linear Models	4
STAT 222	Masters of Statistics Capstone Project	4
Elective		4

The capstone will consist of a team-based learning experience that will give students the opportunity to work on a real-world problem and carry out a substantial data analysis project. It will culminate with a written report and an oral presentation of findings. The elective will depend on the student's interests and will be decided in consultation with advisers.

Capstone/Thesis (Plan I)

If approved for the thesis option, you must find three faculty to be on your thesis committee. Though not required, it is strongly encouraged that one of the faculty members is from outside the Statistics Department. Both you and the thesis committee chair must agree on the topic of your thesis. Further information on how to file a thesis is available on the MA program web page (http://statistics.berkeley.edu/programs/graduate/masters/).

Capstone/Comprehensive Exam (Plan II)

On a Saturday shortly after the spring semester begins in January, students will take a comprehensive exam on the theoretical foundations of statistics. There will be a 3-hour exam on the material of STAT 201A and STAT 201B. All students taking the exam will receive copies of previous examinations.

Statistics

STAT 200A Introduction to Probability and Statistics at an Advanced Level 4 Units

Terms offered: Fall 2018, Fall 2011, Fall 2010
Probability spaces, random variables, distributions in probability and statistics, central limit theorem, Poisson processes, transformations involving random variables, estimation, confidence intervals, hypothesis testing, linear models, large sample theory, categorical models, decision theory.

Rules & Requirements

Prerequisites: Multivariable calculus and one semester of linear algebra

Credit Restrictions: Students will receive no credit for Statistics 200A after completing Statistics 201A-201B.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 200B Introduction to Probability and Statistics at an Advanced Level 4 Units

Terms offered: Spring 2019, Spring 2012, Spring 2011
Probability spaces, random variables, distributions in probability and statistics, central limit theorem, Poisson processes, transformations involving random variables, estimation, confidence intervals, hypothesis testing, linear models, large sample theory, categorical models, decision theory.

Rules & Requirements

Prerequisites: Multivariable calculus and one semester of linear algebra

Credit Restrictions: Students will receive no credit for Statistics 200A-200B after completing Statistics 201A-201B.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT C200C Principles and Techniques of Data Science 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024, Spring 2023, Spring 2022, Spring 2021, Spring 2020
Explores the data science lifecycle: question formulation, data collection and cleaning, exploratory, analysis, visualization, statistical inference, prediction, and decision-making. Focuses on quantitative critical thinking and key principles and techniques: languages for transforming, querying and analyzing data; algorithms for machine learning methods: regression, classification and clustering; principles of informative visualization; measurement error and prediction; and techniques for scalable data processing. Research term project.

Rules & Requirements

Prerequisites: COMPSCI C8 / INFO C8 / STAT C8 or ENGIN 7; and either COMPSCI 61A or COMPSCI 88. Corequisites: MATH 54 or EECS 16A

Credit Restrictions: Students will receive no credit for DATA C200\COMPSCI C200A\STAT C200C after completing DATA C100.

Hours & Format

Fall and/or spring:
8 weeks - 6-6 hours of lecture, 2-2 hours of discussion, and 0-2 hours of laboratory per week
15 weeks - 3-3 hours of lecture, 1-1 hours of discussion, and 0-1 hours of laboratory per week

Summer: 8 weeks - 6-6 hours of lecture, 2-2 hours of discussion, and 0-2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Formerly known as: Statistics C200C/Computer Science C200A

Also listed as: COMPSCI C200A/DATA C200

STAT 201A Introduction to Probability at an Advanced Level 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
Distributions in probability and statistics, central limit theorem, Poisson processes, modes of convergence, transformations involving random variables.

Rules & Requirements

Prerequisites: Undergraduate probability at the level of Statistics 134, multivariable calculus (at the level of Berkeley's Mathematics 53) and linear algebra (at the level of Berkeley's Mathematics 54)

Credit Restrictions: Students will receive no credit for STAT 201A after completing STAT 200A.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 201B Introduction to Statistics at an Advanced Level 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
Estimation, confidence intervals, hypothesis testing, linear models, large sample theory, categorical models, decision theory.

Rules & Requirements

Prerequisites: Undergraduate probability at the level of Statistics 134, multivariable calculus (at the level of Berkeley's Mathematics 53) and linear algebra (at the level of Berkeley's Mathematics 54)

Credit Restrictions: Students will receive no credit for Statistics 201B after completing Statistics 200B.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 204 Probability for Applications 4 Units

Terms offered: Fall 2023, Fall 2019, Spring 2017
A treatment of ideas and techniques most commonly found in the applications of probability: Gaussian and Poisson processes, limit theorems, large deviation principles, information, Markov chains and Markov chain Monte Carlo, martingales, Brownian motion and diffusion.
Rules & Requirements

Credit Restrictions: Students will receive no credit for Statistics 204 after completing Statistics 205A-205B.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: Evans

STAT C205A Probability Theory 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
The course is designed as a sequence with Statistics C205B/ Mathematics C218B with the following combined syllabus. Measure theory concepts needed for probability. Expection, distributions. Laws of large numbers and central limit theorems for independent random variables. Characteristic function methods. Conditional expectations, martingales and martingale convergence theorems. Markov chains. Stationary processes. Brownian motion.
Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: MATH C218A

STAT C205B Probability Theory 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
The course is designed as a sequence with with Statistics C205A/ Mathematics C218A with the following combined syllabus. Measure theory concepts needed for probability. Expection, distributions. Laws of large numbers and central limit theorems for independent random variables. Characteristic function methods. Conditional expectations, martingales and martingale convergence theorems. Markov chains. Stationary processes. Brownian motion.
Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: MATH C218B

STAT C206A Advanced Topics in Probability and Stochastic Process 3 Units

Terms offered: Fall 2024, Fall 2020, Fall 2016
The topics of this course change each semester, and multiple sections may be offered. Advanced topics in probability offered according to students demand and faculty availability.
Rules & Requirements

Prerequisites: Statistics C205A-C205B or consent of instructor

Repeat rules: Course may be repeated for credit with instructor consent.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: MATH C223A

STAT C206B Advanced Topics in Probability and Stochastic Processes 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
The topics of this course change each semester, and multiple sections may be offered. Advanced topics in probability offered according to students demand and faculty availability.
Rules & Requirements

Repeat rules: Course may be repeated for credit with instructor consent.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: MATH C223B

STAT 210A Theoretical Statistics 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
An introduction to mathematical statistics, covering both frequentist and Bayesian aspects of modeling, inference, and decision-making. Topics include statistical decision theory; point estimation; minimax and admissibility; Bayesian methods; exponential families; hypothesis testing; confidence intervals; small and large sample theory; and M-estimation.
Rules & Requirements

Prerequisites: Linear algebra, real analysis, and a year of upper division probability and statistics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 210B Theoretical Statistics 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
Introduction to modern theory of statistics; empirical processes, influence functions, M-estimation, U and V statistics and associated stochastic decompositions; non-parametric function estimation and associated minimax theory; semiparametric models; Monte Carlo methods and bootstrap methods; distributionfree and equivariant procedures; topics in machine learning. Topics covered may vary with instructor.
Rules & Requirements

Prerequisites: Statistics 210A and a graduate level probability course; a good understanding of various notions of stochastic convergence

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 212A Topics in Theoretical Statistics 3 Units

Terms offered: Spring 2021, Fall 2015, Fall 2012
This course introduces the student to topics of current research interest in theoretical statistics. Recent topics include information theory, multivariate analysis and random matrix theory, high-dimensional inference. Typical topics have been model selection; empirical and point processes; the bootstrap, stochastic search, and Monte Carlo integration; information theory and statistics; semi- and non-parametric modeling; time series and survival analysis.
Rules & Requirements

Prerequisites: 210 or 205 and 215

Repeat rules: Course may be repeated for credit with instructor consent.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Formerly known as: 216A-216B and 217A-217B

STAT 212B Topics in Theoretical Statistics 3 Units

Terms offered: Spring 2016
This course introduces the student to topics of current research interest in theoretical statistics. Recent topics include information theory, multivariate analysis and random matrix theory, high-dimensional inference. Typical topics have been model selection; empirical and point processes; the bootstrap, stochastic search, and Monte Carlo integration; information theory and statistics; semi- and non-parametric modeling; time series and survival analysis.
Rules & Requirements

Prerequisites: 210 or 205 and 215

Repeat rules: Course may be repeated for credit with instructor consent.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Formerly known as: 216A-216B and 217A-217B

STAT 214 Data Analysis and Machine Learning for Real-World Decision Making 4 Units

Terms offered: Spring 2025
This is an MA class in statistics. Students will be engaged in open-ended data projects for decision making to solve domain problems. It mirrors the entire data science life cycle in practice, including problem formulation, data cleaning, exploratory data analysis, statistical and machine learning modeling and computational techniques, and interpretation of results in context. It is guided by the Predictability-Computability-Stability (PCS) framework for veridical data science and emphasizes critical thinking and documenting human judgment calls and code. It coaches not only the technical but also communication and teamwork skills in order to obtain responsible and reliable data-driven conclusions for solving complex real world problems.

Rules & Requirements

Prerequisites: Prerequisites: Stat 134 and Stat 135 (or Data C100 and Data C140) or equivalents. Computing prerequisites: Stat 243 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 215A Applied Statistics and Machine Learning 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
Applied statistics and machine learning, focusing on answering scientific questions using data, the data science life cycle, critical thinking, reasoning, methodology, and trustworthy and reproducible computational practice. Hands-on-experience in open-ended data labs, using programming languages such as R and Python. Emphasis on understanding and examining the assumptions behind standard statistical models and methods and the match between the assumptions and the scientific question. Exploratory data analysis. Model formulation, fitting, model testing and validation, interpretation, and communication of results. Methods, including linear regression and generalizations, decision trees, random forests, simulation, and randomization methods.

Rules & Requirements

Prerequisites: Linear algebra, calculus, upper division probability and statistics, and familiarity with high-level programming languages. Statistics 133, 134, and 135 recommended

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 215B Statistical Models: Theory and Application 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
Course builds on 215A in developing critical thinking skills and the techniques of advanced applied statistics. Particular topics vary with instructor. Examples of possible topics include planning and design of experiments, ANOVA and random effects models, splines, classification, spatial statistics, categorical data analysis, survival analysis, and multivariate analysis.

Rules & Requirements

Prerequisites: Statistics 215A or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 222 Masters of Statistics Capstone Project 4 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
The capstone project is part of the masters degree program in statistics. Students engage in professionally-oriented group research under the supervision of a research advisor. The research synthesizes the statistical, computational, economic, and social issues involved in solving complex real-world problems.

Rules & Requirements

Prerequisites: Statistics 201A-201B, 243. Restricted to students who have been admitted to the one-year Masters Program in Statistics beginning fall 2012 or later

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar and 1 hour of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 230A Linear Models 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
Theory of least squares estimation, interval estimation, and tests under the general linear fixed effects model with normally distributed errors. Large sample theory for non-normal linear models. Two and higher way layouts, residual analysis. Effects of departures from the underlying assumptions. Robust alternatives to least squares.

Rules & Requirements

Prerequisites: Matrix algebra, a year of calculus, two semesters of upper division or graduate probability and statistics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 232 Experimental Design 4 Units

Terms offered: Spring 2023, Spring 2022, Fall 2018
This course will review the statistical foundations of randomized experiments and study principles for addressing common setbacks in experimental design and analysis in practice. We will cover the notion of potential outcomes for causal inference and the Fisherian principles for experimentation (randomization, blocking, and replications). We will also cover experiments with complex structures (clustering in units, factorial design, hierarchy in treatments, sequential assignment, etc). We will also address practical complications in experiments, including noncompliance, missing data, and measurement error.

Rules & Requirements

Prerequisites: Statistics 134 and Statistics 135 and experience with Software R, or consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 238 Bayesian Statistics 3 Units

Terms offered: Spring 2025, Fall 2016
Bayesian methods and concepts: conditional probability, one-parameter and multiparameter models, prior distributions, hierarchical and multi-level models, predictive checking and sensitivity analysis, model selection, linear and generalized linear models, multiple testing and high-dimensional data, mixtures, non-parametric methods. Case studies of applied modeling. In-depth computational implementation using Markov chain Monte Carlo and other techniques. Basic theory for Bayesian methods and decision theory. The selection of topics may vary from year to year.

Objectives & Outcomes

Course Objectives: develop Bayesian models for new types of data
implement Bayesian models and interpret the results
read and discuss Bayesian methods in the literature
select and build appropriate Bayesian models for data to answer research questions
understand and describe the Bayesian perspective and its advantages and disadvantages compared to classical methods

Rules & Requirements

Prerequisites: Probability and mathematical statistics at the level of Stat 134 and Stat 135 or, ideally, Stat 201A and Stat 201B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 239A The Statistics of Causal Inference in the Social Science 4 Units

Terms offered: Fall 2015, Fall 2014
Approaches to causal inference using the potential outcomes framework. Covers observational studies with and without ignorable treatment assignment, randomized experiments with and without noncompliance, instrumental variables, regression discontinuity, sensitivity analysis and randomization inference. Applications are drawn from a variety of fields including political science, economics, sociology, public health and medicine.

Rules & Requirements

Prerequisites: At least one graduate matrix based multivariate regression course in addition to introductory statistics and probability

Hours & Format

Fall and/or spring: 15 weeks - 3-3 hours of lecture and 1-2 hours of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade. This is part one of a year long series course. A provisional grade of IP (in progress) will be applied and later replaced with the final grade after completing part two of the series.

Instructor: Sekhon

STAT 239B Quantitative Methodology in the Social Sciences Seminar 4 Units

Terms offered: Spring 2016, Spring 2015
A seminar on successful research designs and a forum for students to discuss the research methods needed in their own work, supplemented by lectures on relevant statistical and computational topics such as matching methods, instrumental variables, regression discontinuity, and Bayesian, maximum likelihood and robust estimation. Applications are drawn from political science, economics, sociology, and public health. Experience with R is assumed.

Rules & Requirements

Prerequisites: Statistics 239A or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3-3 hours of lecture and 1-2 hours of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade. This is part two of a year long series course. Upon completion, the final grade will be applied to both parts of the series.

STAT C239A The Statistics of Causal Inference in the Social Science 4 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016
Approaches to causal inference using the potential outcomes framework. Covers observational studies with and without ignorable treatment assignment, randomized experiments with and without noncompliance, instrumental variables, regression discontinuity, sensitivity analysis and randomization inference. Applications are drawn from a variety of fields including political science, economics, sociology, public health and medicine.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: POL SCI C236A

STAT C239B Quantitative Methodology in the Social Sciences Seminar 4 Units

Terms offered: Spring 2018, Spring 2017
A seminar on successful research designs and a forum for students to discuss the research methods needed in their own work, supplemented by lectures on relevant statistical and computational topics such as matching methods, instrumental variables, regression discontinuity, and Bayesian, maximum likelihood and robust estimation. Applications are drawn from political science, economics, sociology, and public health. Experience with R is assumed.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: POL SCI C236B

STAT 240 Nonparametric and Robust Methods 4 Units

Terms offered: Spring 2023, Spring 2021, Fall 2017
Standard nonparametric tests and confidence intervals for continuous and categorical data; nonparametric estimation of quantiles; robust estimation of location and scale parameters. Efficiency comparison with the classical procedures.

Rules & Requirements

Prerequisites: A year of upper division probability and statistics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT C241A Statistical Learning Theory 3 Units

Terms offered: Fall 2025, Fall 2023, Fall 2021
Classification regression, clustering, dimensionality, reduction, and density estimation. Mixture models, hierarchical models, factorial models, hidden Markov, and state space models, Markov properties, and recursive algorithms for general probabilistic inference nonparametric methods including decision trees, kernal methods, neural networks, and wavelets. Ensemble methods.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructors: Bartlett, Jordan, Wainwright

Also listed as: COMPSCI C281A

STAT C241B Advanced Topics in Learning and Decision Making 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
Recent topics include: Graphical models and approximate inference algorithms. Markov chain Monte Carlo, mean field and probability propagation methods. Model selection and stochastic realization. Bayesian information theoretic and structural risk minimization approaches. Markov decision processes and partially observable Markov decision processes. Reinforcement learning.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructors: Bartlett, Jordan, Wainwright

Also listed as: COMPSCI C281B

STAT 243 Introduction to Statistical Computing 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
Concepts in statistical programming and statistical computation, including programming principles, data and text manipulation, parallel processing, simulation, numerical linear algebra, and optimization.

Objectives & Outcomes

Student Learning Outcomes: Become familiar with concepts and tools for reproducible research and good scientific computing practices.
Operate effectively in a UNIX environment and on remote servers.
Program effectively in languages including R and Python with an advanced knowledge of language functionality and an understanding of general programming concepts.
Understand in depth and make use of principles of numerical linear algebra, optimization, and simulation for statistics-related research.

Rules & Requirements

Prerequisites: Graduate standing

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 244 Computing for Statistics and Data Science with Julia 2 Units

Terms offered: Spring 2025, Spring 2011, Spring 2010
Programming and computation for applications in statistics, data science and related fields, focusing on the use of Julia, a modern language that offers interactivity with high performance based on just-in-time compilation. The course will also cover the use of co-processors, in particular GPUs, through Julia and Python packages such as Jax and PyTorch. Topics will include data types, functional programming, multiple argument dispatch, memory use, efficiency, parallelization, robustness and testing.

Rules & Requirements

Prerequisites: Statistics 243 or Statistics 215A or equivalent background of (1) extensive experience with a language such as Python or R, (2) basic familiarity with programming concepts such as functional programming, object-oriented programming, variable scope, memory use, and data structures, and (3) familiarity with the basics of parallel processing

Credit Restrictions: Students will receive no credit for STAT 244 after completing STAT 244. A deficient grade in STAT 244 may be removed by taking STAT 244.

Hours & Format

Fall and/or spring: 7 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT C245A Introduction to Modern Biostatistical Theory and Practice 4 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
Course covers major topics in general statistical theory, with a focus on statistical methods in epidemiology. The course provides a broad theoretical framework for understanding the properties of commonly-used and more advanced methods. Emphasis is on estimation in nonparametric models in the context of contingency tables, regression (e.g., linear, logistic), density estimation and more. Topics include maximum likelihood and loss-based estimation, asymptotic linearity/normality, the delta method, bootstrapping, machine learning, targeted maximum likelihood estimation. Comprehension of broad concepts is the main goal, but practical implementation in R is also emphasized. Basic knowledge of probability/statistics and calculus are assume

Rules & Requirements

Prerequisites: Statistics 200A (may be taken concurrently)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: Hubbard

Also listed as: PB HLTH C240A

STAT C245B Biostatistical Methods: Survival Analysis and Causality 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
Analysis of survival time data using parametric and non-parametric models, hypothesis testing, and methods for analyzing censored (partially observed) data with covariates. Topics include marginal estimation of a survival function, estimation of a generalized multivariate linear regression model (allowing missing covariates and/or outcomes), estimation of a multiplicative intensity model (such as Cox proportional hazards model) and estimation of causal parameters assuming marginal structural models. General theory for developing locally efficient estimators of the parameters of interest in censored data models. Computing techniques, numerical methods, simulation and general implementation of biostatistical analysis techniques with emphasis on data applications.

Rules & Requirements

Prerequisites: Statistics 200B (may be taken concurrently)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: van der Laan

Also listed as: PB HLTH C240B

STAT C245C Machine Learning and Biostatistics in Healthcare 3 Units

Terms offered: Fall 2025, Spring 2025, Fall 2023
Machine learning (ML) algorithms are widely applied in our daily lives. The overarching goal of this course is to provide students with an overview and hands-on experiences of popular machine learning methods and biostatistical models adopted in the healthcare system and medical research. The topics of the class include supervised learning methods (GLM, SVM, metric learning, tree-based approaches, and shrinkage based approaches), semi-supervised learning (transduction learning, inductive learning), deep learning and neural networks, adaptive experiments, reinforcement learning and multi arm bandit algorithm, causal inference and resampling based statistical inference. The course will also cover the applications of these methods.

Rules & Requirements

Prerequisites: Probability, Linear Regression, Calculus

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: Wang

Also listed as: PB HLTH C240C

STAT C245D Biostatistical Methods: Computational Statistics with Applications in Biology and Medicine II 4 Units

Terms offered: Fall 2017, Fall 2015, Fall 2013
This course and Pb Hlth C240C/Stat C245C provide an introduction to computational statistics with emphasis on statistical methods and software for addressing high-dimensional inference problems that arise in current biological and medical research. The courses also discusses statistical computing resources, with emphasis on the R language and environment (www.r-project.org). Programming topics to be discussed include: data structures, functions, statistical models, graphical procedures, designing an R package, object-oriented programming, inter-system interfaces. The statistical and computational methods are motivated by and illustrated on data structures that arise in current high-dimensional inference problems in biology and medicine.

Rules & Requirements

Prerequisites: Statistics 200A-200B or Statistics 201A-201B (may be taken concurrently) or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: Dudoit

Also listed as: PB HLTH C240D

STAT C245F Statistical Genomics 4 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020, Spring 2018, Spring 2017
Genomics is one of the fundamental areas of research in the biological sciences and is rapidly becoming one of the most important application areas in statistics. The first course in this two-semester sequence is Public Health C240E/Statistics C245E. This is the second course, which focuses on sequence analysis, phylogenetics, and high-throughput microarray and sequencing gene expression experiments. The courses are primarily intended for graduate students and advanced undergraduate students from the mathematical sciences.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructors: Dudoit, Huang, Nielsen, Song

Also listed as: PB HLTH C240F

STAT C247C Longitudinal Data Analysis 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2021
Course covers statistical issues surrounding estimation of effects using data on units followed through time. Course emphasizes a regression model approach for estimating associations of disease incidence modeling, continuous outcome data/linear models & longitudinal extensions to nonlinear models forms (e.g., logistic). Course emphasizes complexities that repeated measures has on the estimation process & opportunities it provides if data is modeled appropriately. Most time is spent on 2 approaches: mixed models based upon explicit (latent variable) maximum likelihood estimation of the sources of the dependence, versus empirical estimating equation approaches (generalized estimating equations). Primary focus is from the analysis side.

Objectives & Outcomes

Course Objectives: After successfully completing the course, you will be able to:

- frame data science questions relevant to longitudinal studies as the estimation of statistical parameters generated from regression,
- derive consistent statistical inference in the presence of correlated, repeated measures data using likelihood-based mixed models and estimating equation approaches (generalized estimating equations; GEE),
- implement the relevant methods using R.
- interpret the regression output, including both coefficients and variance components and

Rules & Requirements

Prerequisites: 142, 145, 241 or equivalent courses in basic statistics, linear and logistic regression

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Instructor: Hubbard

Also listed as: PB HLTH C242C

STAT 248 Analysis of Time Series 4 Units

Terms offered: Fall 2025, Spring 2025, Spring 2022
Frequency-based techniques of time series analysis, spectral theory, linear filters, estimation of spectra, estimation of transfer functions, design, system identification, vector-valued stationary processes, model building.

Rules & Requirements

Prerequisites: 102 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 251 Stochastic Analysis with Applications to Mathematical Finance 3 Units

Terms offered: Spring 2008, Spring 2006, Spring 2005
The essentials of stochastic analysis, particularly those most relevant to financial engineering, will be surveyed: Brownian motion, stochastic integrals, Ito's formula, representation of martingales, Girsanov's theorem, stochastic differential equations, and diffusion processes. Examples will be taken from the Black-Scholes-Merton theory of pricing and hedging contingent claims such as options, foreign market derivatives, and interest rate related contracts.

Rules & Requirements

Prerequisites: 205A or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 254 Modern Statistical Prediction and Machine Learning 4 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
This course is about statistical learning methods and their use for data analysis. Upon completion, students will be able to build baseline models for real world data analysis problems, implement models using programming languages and draw conclusions from models. The course will cover principled statistical methodology for basic machine learning tasks such as regression, classification, dimension reduction and clustering. Methods discussed will include linear regression, subset selection, ridge regression, LASSO, logistic regression, kernel smoothing methods, tree based methods, bagging and boosting, neural networks, Bayesian methods, as well as inference techniques based on resampling, cross validation and sample splitting.

Rules & Requirements

Prerequisites: STAT 135, the combination of DATA/STAT/COMPSCI C100 and DATA/STAT C140, or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 256 Causal Inference 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
This course will focus on approaches to causal inference using the potential outcomes framework. It will also use causal diagrams at an intuitive level. The main topics are classical randomized experiments, observational studies, instrumental variables, principal stratification and mediation analysis. Applications are drawn from a variety of fields including political science, economics, sociology, public health, and medicine. This course is a mix of statistical theory and data analysis. Students will be exposed to statistical questions that are relevant to decision and policy making.

Rules & Requirements

Prerequisites: Statistics 201B or Statistics 210A

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 259 Reproducible and Collaborative Statistical Data Science 4 Units

Terms offered: Fall 2025, Spring 2023, Spring 2022
A project-based introduction to statistical data analysis. Through case studies, computer laboratories, and a term project, students will learn practical techniques and tools for producing statistically sound and appropriate, reproducible, and verifiable computational answers to scientific questions. Course emphasizes version control, testing, process automation, code review, and collaborative programming. Software tools may include Bash, Git, Python, and LaTeX.
Rules & Requirements

Prerequisites: Statistics 133, Statistics 134, and Statistics 135 (or equivalent)

Credit Restrictions: Students will receive no credit for Statistics 259 after taking Statistics 159.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 260 Topics in Probability and Statistics 3 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
Special topics in probability and statistics offered according to student demand and faculty availability.
Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT C261 Quantitative/Statistical Research Methods in Social Sciences 3 Units

Terms offered: Spring 2016, Spring 2015, Spring 2014
Selected topics in quantitative/statistical methods of research in the social sciences and particularly in sociology. Possible topics include: analysis of qualitative/categorical data; loglinear models and latent-structure analysis; the analysis of cross-classified data having ordered and unordered categories; measure, models, and graphical displays in the analysis of cross-classified data; correspondence analysis, association analysis, and related methods of data analysis.
Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

Also listed as: SOCIOL C271D

STAT 265 Forecasting 3 Units

Terms offered: Spring 2025, Spring 2024
Forecasting has been used to predict elections, climate change, and the spread of COVID-19. Poor forecasts led to the 2008 financial crisis. In our daily lives, good forecasting ability can help us plan our work, be on time to events, and make informed career decisions. This practically-oriented class will provide students with tools to make good forecasts, including Fermi estimates, calibration training, base rates, scope sensitivity, and power laws.

Objectives & Outcomes

Course Objectives: We'll discuss several historical instances of successful and unsuccessful forecasts, and practice making forecasts about our own lives, about current events, and about scientific progress.

Student Learning Outcomes: Formulate questions that are relevant to their own life or work.
Identify well-defined versus poorly-defined forecasting questions.
Provide forecasts that are well-calibrated.
Understand common forecasting pitfalls, such as improper independence assumptions, and how to identify and guard against them.
Understand how forecasts evolve across time in response to new information.
Use forecasts to inform decisions.
Utilize a variety of forecasting tools, such as base rates, to improve their forecasts.

Utilize and filter data across a variety of sources to inform their forecasts.

Work in teams to improve forecasts.

Rules & Requirements

Prerequisites: Stat 134, Data/Stat C140, EECS 126, Math 106, IND ENG 172, or equivalent; and familiarity with Python; or consent of instructor. Strongly Recommended: Compsci 61A, Data/Compsci C88C, or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 272 Statistical Consulting 3 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024
To be taken concurrently with service as a consultant in the department's drop-in consulting service. Participants will work on problems arising in the service and will discuss general ways of handling such problems. There will be working sessions with researchers in substantive fields and occasional lectures on consulting.

Rules & Requirements

Prerequisites: Some course work in applied statistics and permission of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of session per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

STAT 278B Statistics Research Seminar 1 - 4 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
Special topics, by means of lectures and informational conferences.

Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of seminar per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

STAT 298 Directed Study for Graduate Students 1 - 12 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
Special tutorial or seminar on selected topics.

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:
6 weeks - 1-16 hours of independent study per week
8 weeks - 1-12 hours of independent study per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 299 Individual Study Leading to Higher Degrees 0.5 - 12 Units

Terms offered: Fall 2025, Summer 2025 10 Week Session, Spring 2025
Individual study
Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2-36 hours of independent study per week

Summer:
6 weeks - 4-45 hours of independent study per week
8 weeks - 3-36 hours of independent study per week
10 weeks - 2.5-27 hours of independent study per week

Additional Details

Subject/Course Level: Statistics/Graduate

Grading: Letter grade.

STAT 375 Professional Preparation: Teaching of Probability and Statistics 2 - 4 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
Discussion, problem review and development, guidance of laboratory classes, course development, supervised practice teaching.
Rules & Requirements

Prerequisites: Graduate standing and appointment as a graduate student instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Statistics/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Formerly known as: Statistics 300

STAT 601 Individual Study for Master's Candidates 0.5 - 8 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024
Individual study in consultation with the graduate adviser, intended to provide an opportunity for qualified students to prepare themselves for the master's comprehensive examinations. Units may not be used to meet either unit or residence requirements for a master's degree.
Rules & Requirements

Repeat rules: Course may be repeated for credit up to a total of 16 units.

Hours & Format

Fall and/or spring: 15 weeks - 0.5-8 hours of independent study per week

Summer:
6 weeks - 1.5-20 hours of independent study per week
8 weeks - 1-15 hours of independent study per week
10 weeks - 1-12 hours of independent study per week

Additional Details

Subject/Course Level: Statistics/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

STAT 602 Individual Study for Doctoral Candidates 0.5 - 8 Units

Terms offered: Fall 2025, Summer 2025 10 Week Session, Spring 2025
Individual study in consultation with the graduate adviser, intended to provide an opportunity for qualified students to prepare themselves for certain examinations required of candidates for the Ph.D. degree.
Rules & Requirements

Prerequisites: One year of full-time graduate study and permission of the graduate adviser

Credit Restrictions: Course does not satisfy unit or residence requirements for doctoral degree.

Repeat rules: Course may be repeated for credit up to a total of 16 units.

Hours & Format

Fall and/or spring: 15 weeks - 0.5-8 hours of independent study per week

Summer:
6 weeks - 1.5-20 hours of independent study per week
8 weeks - 1-15 hours of independent study per week
10 weeks - 1-12 hours of independent study per week

Additional Details

Subject/Course Level: Statistics/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

STAT 700 Statistics Colloquium 0.0 Units

Terms offered: Prior to 2007

The Statistics Colloquium is a forum for talks on the theory and applications of Statistics to be given to the faculty and graduate students of the Statistics Department and other interested parties.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of colloquium per week

Additional Details

Subject/Course Level: Statistics/Graduate examination preparation

Grading: The grading option will be decided by the instructor when the class is offered.

Formerly known as: Statistics 999