



Entering Class 2025-2026 Student Handbook MS, MPH, & PHD

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# Introduction



Welcome to the UCLA Department of Biostatistics!

Biostatistics is the field encompassing the methodology and theory of statistics as applied to problems in the life and health sciences. Biostatisticians are trained in the development and application of statistical methods to address problems in public health and medicine. Biostatisticians collaborate with scientists in nearly every area related to health.



The Department of Biostatistics offers M.S., M.P.H., M.D.S.H.\*, and Ph.D. degrees.

A degree in biostatistics prepares students for work in a wide variety of challenging positions in government, industry, and academics. UCLA graduates have found excellent careers in diverse settings including universities, the pharmaceutical industry, the biotechnology industry, health care settings, statistical consulting, and federal and local governments. Students have opportunities to participate with faculty

in collaborative research projects in wide-ranging areas such as cancer, AIDS, gerontology, genetics, immunology, dentistry, medical imaging, mental health, health policy, and clinical research.

The field of biostatistics has undergone tremendous growth in recent years. Biostatistical input is now considered critical in addressing the world's health problems. UCLA has a superior record in training students both at the master's and doctoral levels. A UCLA biostatistics degree provides students with a balanced education that blends theory and practice.

\* More information on the M.D.S.H. degree can be found on the official website here: https://mdsh.ucla.edu/

Damla Senturk, PhD Biostatistics Professor and Chair UCLA Fielding School of Public Health Kate Crespi, PhD Biostatistics Professor and Vice Chair UCLA Fielding School of Public Health

# **History and Mission**

The UCLA Division of Biostatistics was established in 1959 in the then new School of Public Health. Among other degree programs, the division offered the Ph.D. in Biostatistics, with the first degree being awarded in 1963. The Department of Biostatistics was established in 1989 when the School of Public Health was reorganized into five departments from a single school-wide departmental structure. The Department of Biostatistics was established to carry out these goals:

- To develop a first-rate graduate program in biostatistics filling a demonstrated need for well-trained biostatisticians.
- To develop Biostatistical research programs responsive to the scientific problems encountered in public health and biomedicine.
- To actively collaborate with investigators at UCLA and worldwide in the solution of health problems.

The Department today is a leader in the training of biostatisticians for universities, government, and industry. The Department's research programs are highly respected nationally and internationally. Faculty members collaborate with investigators in a large number of diverse disciplines.

# New Admit Checklist

#### **Know your:**

- UID (University ID)
- UCLA email address
- Single Sign On (SSO) credentials

## Make sure to complete:

- □ Slack: Join UCLA Slack if you have not done so. Invitations were sent in the summer.
- Social Media: Follow UCLA Biostatistics social media while not mandatory, we hope you will follow the Biostatistics Instagram and Twitter feeds
- □ <u>Linkedin:</u> Create a LinkedIn Profile if you do not have one already <u>and</u> connect with UCLA Biostatistics on LinkedIn
- □ BruinCard: Apply for your BruinCard at least 5 business days prior to Orientation.
- □ Bruin Safe Online: Install the app on your smartphone
- □ <u>Test of Oral Proficiency (TOP)</u>: For students whose first language is not English and wish to TA in the future, make sure to sign up to take the TOP.
- □ **ESLPE**: International graduate students entering UCLA are required to take the ESLPE exam.

# Department Location, Website, and Administration

Biostatistics Department
UCLA Fielding School of Public Health
Department of Biostatistics
Room 51-254, Center for Health Sciences (CHS) Building
650 Charles E Young Dr S, Los Angeles, CA 90095

Website: <a href="https://ph.ucla.edu/departments/biostatistics">https://ph.ucla.edu/departments/biostatistics</a>

Dept. Chair: Damla Senturk

dsenturk@ucla.edu Office: 51-253C CHS

Vice Chair: Kate Crespi

ccrespi@ucla.edu Office: 51-239 CHS

Dept. Administrator: Ruzanna Margaryan

rmargaryan@ph.ucla.edu

Office: 51-254A CHS, (310) 825-5370

Student Affairs: Roxy Naranjo

rlnaranjo@ph.ucla.edu

Office: 51-236A CHS, (310) 267-2186

Academic Personnel

Coordinator: Neilufar Modiri

nmodiri@mednet.ucla.edu

Office: 51-254 CHS, (424) 259-8150

Department Hours: Monday – Thursday 8:30AM - 4:00PM

Friday 8:30AM - 2:30PM

# **Biostatistics Faculty**

Abdelmonem A. Afifi, Ph.D., Berkeley.

Professor Emeritus, Recall Faculty

Joint appointment with Biomathematics

Email: afifi@ucla.edu

Office #: 51-236B CHS
Phone: (310) 825-0707
Fax: (310) 267-2113

Research Interests: Multivariate analysis, clinical trials, multilevel models and public health.

Brunilda Balliu, Ph.D., Leiden University, The Netherlands.

**Assistant Professor** 

Joint appointment with Pathology and Laboratory Medicine; Computational Medicine Email: bballiu@ucla.edu Office #: 621 Charles E Young S Dr, Room 5215

Research Interests: Methods for high-dimensional and intensive longitudinal data.

Application to human genetics and functional genomics. Applications to wearable devices and smartphone sensors.

Sudipto Banerjee, Ph.D., University of Connecticut, Storrs.

Professor

Joint Appointment with Statistics; UCLA Institute of the Environment & Sustainability

Email: sudipto@ucla.edu Office #: 51-254B CHS

Phone: (310) 825-5916 Fax: (310) 267-2113

Research Interests: Statistical modeling and analysis of spatial-temporal data; Bayesian statistics (theory and methods) and hierarchical modeling; Bayesian big data analysis; statistical computing and related software development.

Falco J. Bargagli Stoffi, Ph.D., IMT School for Advanced Studies and KU Leuven.

**Assistant Professor** 

Email: falco@g.ucla.edu Office #: 56-070 CHS

Research Interests: **Methodology**: Causal Inference: heterogeneous effects, optimal treatment regimes, network interference, Bayesian causal inference; Artificial Intelligence: interpretability, fairness, Occam's razor. **Applications**: Public Health: precision medicine, personalized treatment regimes, social determinants of health; Real-world evidence: large observational studies; environmental health; clinical trials.

Thomas R. Belin, Ph.D., Harvard.

Professor Office #: 51-267 CHS

Joint appointment with Psychiatry; Biobehavioral Sci. Phone: (310) 206-7361

Email: tbelin@ucla.edu Fax: (310) 206-7361

Research Interests: Missing Data, causal inference, record linkage, mental health research.

Ronald Brookmeyer, Ph.D., University of Wisconsin.

Professor and Dean Office #: 51-253B CHS
Email: rbrookmeyer@ucla.edu Phone: (310) 825-2187
Fax: (310) 267-2113

Research Interests: Survival analysis, epidemic models, epidemiological methods, clinical trials, AIDS/HIV, and Alzheimer's disease.

William G. Cumberland, Ph.D., Johns Hopkins.

Professor Emeritus, Recall Faculty

Office #: 51-236B CHS

Director, Biostatistics Core of CFAR

Phone: (310) 206-9621

Email: wgc@ucla.edu

Fax: (310) 267-2113

Research Interests: Finite population sampling, stochastic modeling, applications to cancer,

AIDS, and California Health Interview Survey.

Guang Cheng, Ph.D., University of Wisconsin, Madison.

Professor

Joint appointment with Statistics

Email: guangcheng@ucla.edu Office #: 9404 Boelter

Research Interests: Trustworthy AI, Data Privacy, Large Language Model, Machine/Deep

Learning Applications and Theory

Catherine M. Crespi, Ph.D., UCLA.

Professor In-Residence and Vice Chair Office #: 51-239C CHS
Affiliation: Jonsson Comprehensive Cancer Center, Center for Cancer Prevention and Control Research Fax: (310) 267-2113

Email: ccrespi@ucla.edu

Research Interests: Intervention studies, cluster randomized trials, longitudinal data, power and sample size methods, cancer prevention and control.

Dorota M. Dabrowska, Ph.D., Berkeley.

Professor Emerita and Recall Faculty

Joint appointment with Statistics

Email: dorota@ucla.edu

Office #: 51-236B CHS
Phone: (310) 206-9624
Fax: (310) 267-2113

 $Research\,Interests:\,Inference\,in\,nonparametric\,and\,semiparametric\,models,\,survival\,analysis,\,survival\,anal$ 

counting processes, data transformations.

Xiaowu Dai, Ph.D., University of Wisconsin.

Assistant Professor and Recall Faculty Office #: MS 8917

Joint appointment with Statistics Phone: (424) 259-5110

Email: dai@stat.ucla.edu

Research Interests: Brain imaging analysis and biomedical research; neuroimaging,

cardiovascular disease, kidney exchanges

<u>David A. Elashoff</u>, Ph.D., Stanford.

Professor Office #: 21-254C CHS

Joint appointment with Medicine Phone: (310) 794-7835

Email: dae@ucla.edu Fax: (310) 267-2113

Research Interests: Analysis of DNA microarray data: statistical methods for computing appropriate metrics for gene expression and gene filtering algorithms to isolate differentially expressed genes, analysis of protein mass-spectrometry data, clinical research in nursing and cancer.

Michele Guindani, Ph.D., Università Bocconi, Milano.

Professor

Email: mguindani@g.ucla.edu Office: 76-062B CHS

Research Interests: Analysis of high-dimensional data, Neuroimaging data, Radiomics, Integrative genomics, and Microbiomes. Statistical decision-making under uncertainty, Multiple comparison problems, Clustering, Bayesian modeling, and Bayesian

nonparametrics.

Andrew Holbrook, Ph.D., UC Irvine.

Assistant Professor Office #: 76-062A CHS
Email: aholbroo@ucla.edu Phone: (310) 794-5423
Fax: (310) 267-2113

Research Interests: Bayesian statistics (theory and methods) and hierarchical modeling, computational statistics and high-performance computing, spatial epidemiology. Alzheimer's disease.

Grace Kim, Ph.D., UCLA.

Professor In-Residence

Joint appointment with Radiological Science Office #: 924 Westwood Blvd. Email: gracekim@mednet.ucla.edu Phone: (310) 794-8679

Fax: (310) 794-8657
Research Interests: Classification, analysis in spatially and temporally correlated data, and

pattern recognition of therapeutic response in medical imaging data.

Alexandra M. Klomhaus, Ph. D., UCLA.

Assistant Adjunct Professor Office #: 1100 Glendon Ave. Suite 850

Joint appointment with Medicine, Division of General Internal Medicine

Email: aklomhaus@mednet.ucla.edu

Research Interests: electronic health records (EHR) data, clinical applications of AI/ML models, methodological application to cardiology, adolescent behavioral health, Medicare and Medicaid claims data, and the UC Health Data Warehouse (UCHDW).

Seyoon Ko, Ph. D., Seoul National University.

Assistant Adjunct Professor

Joint appointment with Mathematics Office #: 5242 MS Email: kose@math.ucla.edu Fax: (310) 206-6673

Research Interests: Computational statistics and high-performance computing; numerical optimization; data science and big data computing; machine learning; statistical genetics.

Martin L. Lee, Ph.D., UCLA.

Adjunct Professor Office #: 51-236A CHS Email: martin.l.lee@att.net Phone: (310) 781-3627

Research Interests: Robust statistical methods in Pharmacokinetics.

Gang Li, Ph.D., Florida State.

Professor Office #: 51-253B CHS Email: vli@ucla.edu Phone: (310) 206-5865

Research Interests: Survival analysis, analysis of receiver operating characteristic curves, nonparametric and semiparametric inference, longitudinal data analysis, statistical methods in medical imaging, ophthalmology, clinical trials, pharmaceutical statistics, and cancer.

Jingyi Jessica Li, Ph.D., UC Berkeley.

Professor Office #: MS 8951

Joint appointment with Statistics Phone: (310) 8255370
Email: jli@stat.ucla.edu Fax: (310) 267-2113
Research Interests: Developing new statistical methods for understanding biological questions, especially those related to large-scale genomic and transcriptomic data

Sijia Li, Ph.D., University of Washington.

**Assistant Professor** 

Email: sijiali67@ucla.edu Office #: 56-70A CHS

Research Interests: Data fusion, causal inference, semiparametric statistics, federated learning, model fairness, electronic health record data, mental health, infectious disease.

Honghu Liu, Ph.D., UCLA.

Professor Office #: 63-037A CHS
Joint Appointment with Dentistry Phone: (310) 794-0700
Email: hhliu@mednet.ucla.edu Fax: (310) 206-2688

Research Interests: AIDS, compliance, Application to Dental Health.

Jason H. Moore, Ph.D., University of Michigan.

**Adjunct Professor** 

Email: moorejh@g.ucla.edu Phone: (310) 423-3521

Research Interests: Development, evaluation, and application of artificial intelligence and machine learning methods for developing predictive models of clinical outcomes including risk of common diseases such as cancer, cardiovascular disease, and neuropsychiatric diseases such as Alzheimer's.

Christina Ramirez, Ph.D., Cal Tech.

Professor Office #: 21-257 CHS
Email: cr@ucla.edu Phone: (310) 825-7332
Fax: (310) 267-2113

Research Interests: Statistical genetics, Bayesian phylogeny, nonparametric and semi-

parametric methods.

Panteha H. Rezvan, Ph.D., The University of Melbourne, Australia.

Assistant Adjunct Professor

Joint Appointment with Children's Hospital LA

Email: phayatirezvan@ucla.edu

Research Interest: Methods for handling incomplete data, multilevel and longitudinal

modeling, with applications to child and adolescent health, behavior, and HIV.

<u>Damla Senturk</u>, Ph.D., UC Davis.

Professor and Chair Office #: 51-253C CHS Email: dsenturk@ucla.edu Phone: (310) 206-5977

Fax: (310) 825-6402

Research Interests: Longitudinal and functional data analysis, hierarchical modeling, spatiotemporal modeling, nonparametric methods, big data, applications to mental health, neuroimaging and nephrology.

Marc A. Suchard, Ph.D., UCLA.

Professor Office #: AV-633 CHS/6-558 Gonda

Joint appointment with Human Genetics & Biomathematics Phone: (310)-825-0936/

7442

Email: msuchard@ucla.edu Fax: (310) 825-8685

Research Interests: Stochastic Processes, Applied Probability, Phylogeny, Longitudinal

Modeling.

Catherine Ann Sugar, Ph.D., Stanford.

Professor In-Residence Office #: 51-236C CHS

Joint appointment with Psychiatry/Biobehavioral Sci. Phone: (310) 794-1078

Email: csugar@ucla.edu Fax: (310) 267-2113

Research Interests: Clustering, functional data analysis, classification and patterns of covariation in data, applications to HIV/AIDS, mental health, dentistry, nephrology, and

particularly health services research.

<u>Donatello Telesca</u>, Ph.D., University of Washington.

Professor Office #: 21-254 CHS Email: dtelesca@ucla.edu Phone: (310) 825-6402

Fax: (310) 267-2113

Research Interests: Bayesian Inference, Bayesian Model Determination, Bioinformatics, Convolution Models, Cancer Research Decision Theory, Dependent Data, Functional Data Analysis, Markov Chain Monte Carlo Methods, Non-parametric Models.

Robert E. Weiss, Ph.D., Minnesota.

Professor Office #: 51-269 CHS
Email: robweiss@ucla.edu Phone: (310) 206-9626
Fax: (310) 267-2113

Research Interests: Bayesian methods and computation, longitudinal data, diagnostics, graphics, hierarchical models, model selection and specification, applications to AIDS/HIV, bioinformatics, evolution and phylogeny, criminal justice, pediatric pain, community intervention studies.

Weng Kee Wong, Ph.D., Minnesota.

Professor Office#: 51-239B CHS Email: wkwong@ucla.edu Phone: (310) 206-9622

Fax: (310) 267-2113

Research Interests: Optimal design of experiments, linear models, pharmacokinetics, clinical trials, research in rheumatology, cancer control and prevention studies.

Jason Xu, Ph.D., University of Washington, Seattle.

Associate Professor

Email: jqxu@g.ucla.edu Office #: 51-269 CHS

Research Interests: Stochastic processes, latent variable models, constrained estimation,

clustering, Markov models, epidemiology, missing data, optimization

Fei Yu, Ph.D.

Adjunct Associate Professor Office: 100 Stein Plaza, 3-217

Email: fyu@ucla.edu Jules Stein Eye Institute Los Angeles,

Phone: 310-794-4455 CA 90095

Research Interests: I am an applied biostatistician with a strong focus on the applications of biostatistical and epidemiological methodology in clinical, epidemiological, and health service and policy research. My primary statistical research interests include statistical consulting, causal inference in clinical and observational studies, design of clinical and observational studies, data management, linkage and statistical analysis of big databases, analysis of correlated data, hierarchical models, longitudinal data analysis, survival analysis, nonparametric statistics, missing data problems, multiple comparison problems, and their applications in ophthalmology and epidemiology research.

Hua Zhou, Ph.D., Stanford.

Professor Office: 21-254A CHS Phone: (310)794-7835

Email: huazhou@ucla.edu Research Interests: Statistical

computing, numerical optimization, statistical genetics, medical imaging, applied probability,

stochastic modeling of HIV and cancer stem cell dynamics.

Jin Zhou, Ph.D., UCLA. Professor In-Residence

Email: jinjinzhou@ucla.edu Office #: 21-254C CHS

Research interests: Statistical genetics, biomedical informatics, electronic health records,

smart health, longitudinal data, survival data, diabetes care.

Joseph Zoller, Ph.D., UCLA.

Lecturer

Email: jaz18@g.ucla.edu

Research Interests: Epigenetic Clocks, Biomarkers for Aging, Omics-Based Biomarkers, HIV and HAART, Multicenter AIDS Cohort Study.

#### **Emeriti Faculty**

<u>Abdelmonem A. Afifi</u>, Ph.D., Berkeley. Dean Emeritus and Professor Emeritus

Nancy Berman, Ph.D., American University. Professor Emerita

Potter Chang, Ph.D., Minnesota.

**Professor Emeritus** 

Virginia A. Clark, Ph.D., UCLA.

Professor Emerita (deceased)

William G. Cumberland, Ph.D., Johns Hopkins.

**Professor Emeritus** 

Dorota M. Dabrowska, Ph.D., Berkeley.

**Professor Emerita** 

Frederick J. Dorey, Ph.D., Massachusetts.

Professor Emeritus (deceased)

David Gjertson, Ph.D., UCLA.

**Professor Emeritus** 

Donald Guthrie, Ph.D., Stanford.

**Professor Emeritus** 

Robert I. Jennrich, Ph.D., UCLA.

**Professor Emeritus** 

Robert E. Weiss, Ph.D., Minnesota.

Professor Emeritus

# Communication Tools and Software

#### Slack Channels

Along with email, Slack is a critical tool for program communication. Make sure to accept the invitation that was sent to join slack. Alternatively, please follow these steps to ask to join:

- Join the "UCLA Campus Community" slack workspace using your UCLA associated email at this link: https://ucla.enterprise.slack.com/workspace/T01A144TVB8
- Find your display name and change if desired (in bold next to your profile picture)
- Invitations have been sent. If you have not joined, email Roxy at rlnaranjo@ph.ucla.edu.

#### **Social Media and Networking**

- LinkedIn: <a href="https://www.linkedin.com/company/uclabiostat?trk=public post feed-actor-name">https://www.linkedin.com/company/uclabiostat?trk=public post feed-actor-name</a> If you do not have a LinkedIn Profile, please create one. See LinkedIn help article: <a href="https://www.linkedin.com/help/linkedin/answer/a554351">https://www.linkedin.com/help/linkedin/answer/a554351</a>
- Instagram: <u>@uclabiostatistics</u>
- X (formerly Twitter): @UCLABiostat

#### **Important Websites**

- Fielding School of Public Health: <a href="mailto:ph.ucla.edu">ph.ucla.edu</a>
- Department of Biostatistics: <a href="mailto:ph.ucla.edu/departments/biostatistics">ph.ucla.edu/departments/biostatistics</a>
- MyUCLA: my.ucla.edu
- BruinLearn: <a href="https://bruinlearn.ucla.edu/courses/288">https://bruinlearn.ucla.edu/courses/288</a>
- Create IT ticket <a href="https://ucla.service-now.com/">https://ucla.service-now.com/</a> or call (310) 267-4357 (HELP) if you have any difficulty with the software requirements below

Logging into UCLA Systems: Single Sign On (SSO) and Multi-factor Authentication (MFA) Many UCLA programs require that you use Single Sign-On and Multi-factor Authentication. To set this up, visit: <a href="https://ociso.ucla.edu/services/multi-factor-authentication-mfa">https://ociso.ucla.edu/services/multi-factor-authentication-mfa</a>

#### Zoom

Please follow the directions below or click <u>here</u> for directions with images to activate your account:

- Log In to create a UCLA Zoom account.
- <u>Download Zoom</u> for your computer. Note, you may also want to download on your mobile device.
  - o In the Zoom App, Choose the "Sign In With SSO" button
  - Type "ucla" as the company domain

#### Adobe Reader and Adobe Creative Cloud

You are responsible for having Adobe Reader. UCLA Bruin Online (BOL) also offers students free access to Adobe Creative Cloud, which allows you access to Acrobat Pro, Photoshop Pro, and many other applications. For more information and instructions to access, visit: <a href="https://ucla.service-now.com/support?id=kb">https://ucla.service-now.com/support?id=kb</a> article&sys id=KB0013458

#### **UCLA Box**

Cloud storage is provided to all students via Box. For more information on accessing your UCLA Box account, visit

https://dts.ucla.edu/products-services/collaboration-tools/box/individual-box-accounts.

#### Campus Wi-Fi

There are different ways to get internet on campus. For information on Wireless Access points and how to connect to the internet, visit: <a href="www.it.ucla.edu/accounts/get-access/campus-wifi">www.it.ucla.edu/accounts/get-access/campus-wifi</a>. During in-person classes and while in the CHS building, we recommend connecting to the wireless network, "eduroam."

- Select "eduroam" from the list of available wireless networks
- You will be prompted to enter your username and password.
- Username is your full Bruin OnLine (BOL) email address (i.e. joebruin@ucla.edu). Simply typing "joebruin" will not let you connect.
- Password is your BOL password.

If "eduroam" gives you a hard time, FSPH also has a "medguest" WIFI, which will take you to a secure single sign-on webpage. You will sign in using your BOL username and password.

# The Master of Science in Biostatistics (M.S.)

## **Preparation for the Degree:**

Mathematics preparation for the program should include at least two years of calculus. The prior coursework should cover material similar to that contained in the following UCLA courses:

Mathematics 31A, B Calculus and Analytic Geometry
 Mathematics 32A, B Calculus of Several Variables

Mathematics 33A, B Matrices, Differential Equations, Infinite Series

Mathematics 115A Linear Algebra

#### **Requirements for the Degree:**

All required and elective courses used toward the degree must be taken for a letter grade, with the only exception being 402B.

#### 1. Course Requirements:

Biostatistics 200 A, B, C Methods in Biostatistics

Biostatistics 202 A, B Theoretical Principles of Biostatistics
 Biostatistics 216 Mathematical Methods for Biostatistics

Biostatistics 244 Master's Seminar and Research Resources for

**Graduating MS Biostatistics Students** 

Biostatistics 402A
 Principles of Biostatistical consulting (2 units)

Biostatistics 402B Biostatistical Consulting

Biostatistics 596
 Directed Individual Study or Research for Masters

Report (4 units)

One 4-unit course in the Department of Epidemiology (either Epi100 or 200A)

• One 4-unit course addressing broad public health themes (PH C201 or HPM M242)

• A minimum of 24 units of electives in the Department of Biostatistics. The elective courses may be selected from Biostatistics 202C, 203A, 203B, 212-M215, 230-241 series, Biostatistics 406, 410, 411 and 413 (see page 47). Students may also apply for permission to use other courses, such as from the UCLA Department of Statistics, as electives by requesting permission via a <u>blue petition</u> (see page 47) in advance of taking the course (see page 54 for some possible courses in the Department of Statistics). No more than one 4-unit course from the 400 series can count towards the minimum 24 units of electives for the degree.

#### 2. Master's Report:

A written report under the direction of a member of the Biostatistics faculty is required. In the spring of the second year of study, students take both Biostatistics 596 under the direction of a faculty member (faculty is identified by the student) and Biostatistics 244 to guide the report preparation. Students should begin thinking about topics for their report at the beginning of

their second year of study. The report must be handed in and approved before the end of the spring term of the second year of study (June 12, 2026) in order to graduate. For specific deadlines, see page 37. Examples of Masters Reports from recent graduates are available for review in the Biostatistics Massey library.

#### 3. The Comprehensive Examination:

This is a written comprehensive exam taken at the beginning of the second year of study in September. The scope of the exam includes material covered in the following biostatistics courses: 200A, 200B, 200C, 202A, and 202B. Students must pass the exam to receive the M.S. degree. Students have a maximum of 2 opportunities to pass the exam.

Failure to secure a passing score in at most two attempts on the MS Comprehensive exam will result in the department recommending the student to the Graduate Division for Academic Disqualification.

#### **Advising Notes:**

Every student is assigned an academic advisor who is a faculty member of the Department of Biostatistics. Students should meet with their advisor prior to the beginning of each quarter to discuss course selections. Students who have adequate prior background may petition to waive core course requirements. This requires approval from their academic advisor and department chair. However, the material from those courses would still be included in the required MS comprehensive exam. Additionally, the waived units must be replaced by other graduate-level courses (200 level or above) and taken for a letter grade.

UCLA students in the M.S Program in Biostatistics who are considering further study in the Ph.D. Program should see page 29 for additional information.

A typical course load is 12 units per term for first year students. It is recommended that you discuss with your academic advisor if you are considering taking a heavier course load.

# **Example of Sequence of Classes for the M.S. Program in Biostatistics**

This sequence of classes is intended to serve only as an example of a two-year M.S. Program in Biostatistics. Students should meet with their faculty advisors to select electives which best suit their interests and goals.

	Fall	Winter	Spring
Year 1	Biostatistics 200A	Biostatistics 200B	Biostatistics 200C
	Biostatistics 216	Biostatistics 202A	Biostatistics 202B
	Biostatistics 203A and/or Public Health	Biostatistics 203B and/or	Biostatistics 402A
	C201 Biostatistics elective		Epidemiology 100 or Biostatistics elective
	- M.S. Comprehensive Exam – Given at the beginning of fall term of Year 2 Scope of exam: 200A, B, C, 202A, B (see page 16)		
Year 2	Biostatistics elective	Biostatistics elective	Biostatistics 244
	Biostatistics elective or Public Health C201(if not previously taken)	Biostatistics elective	Biostatistics 596
	Biostatistics 402B*  Biostatistics elective		Epidemiology 100 (if not previously taken)
			Biostatistics elective
	* Biostat 402B is taken once during the s Courses that count toward the Biostat e of 203 and above, <b>and no more than on</b>	lective requirement are courses in the 2	,

#### **Competencies for the M.S. Program in Biostatistics**

Upon graduation, a student with an M.S. degree in Biostatistics should have acquired the following competencies:

- Demonstrate mastery of the foundations of probability theory and biostatistical concepts.
- 2. Examine foundations of linear and generalized linear statistical models.
- 3. Employ computational methods of applied regression to analysis of biomedical data sets.
- 4. Provide effective biostatistical advice in collaborative research projects.
- 5. Communicate results of biostatistical research both orally and in writing.

# The Master of Public Health in Biostatistics (M.P.H.)

# **Preparation for the Degree:**

Mathematics preparation for the program should include at least one year of calculus:

- Mathematics 31A, BCalculus and Analytic Geometry
- Mathematics 32A Calculus of Several Variables

# **Requirements for the Degree:**

#### 1. Core Course Requirements in Public Health (20 units):

- Community Health Sciences 201
- Environmental Health Sciences 201
- Epidemiology 201
- Health Policy & Management 201
- Public Health 401

#### 2. Course Requirements in Biostatistics:

MPH students are required to take 3 core biostatistics methods courses in year 1. Typically, MPH students in biostatistics meet this requirement by completing one of the three series below:

- Biostatistics 200A, 201B, and 406
- Biostatistics 200A, 200B, and 200C
- Biostatistics 200A, 200B, and 406

The difference between the biostatistics methods sequences (200A, 201B, 406 vs. 200A, 200B, 200C) is that the 200 sequence has more technical and mathematical detail while the 201B/406 sequence focuses on more practical applications. The 200 sequence is taken by M.S. students in the Department of Biostatistics while the 201B/406 sequence is often taken by MPH students in other departments in the Fielding School of Public Health. The decision of whether the Biostatistics 200 sequence is an appropriate fit should be made in consultation with the student's academic advisor, career goals, and prior mathematical background. In order to register for the Biostatistics 200 sequence students will need a PTE (permission to enroll) number. To obtain a PTE number, students should contact Roxy Naranjo (rInaranjo@ph.ucla.edu) and the 200-course instructor.

In addition to the 3 method courses above, students are required to take:

Biostatistics 211A Topics in Applied Regression
 Biostatistics 211B Topics in Applied Regression

•	Biostatistics 203A	Computer Management of Health Data
•	Biostatistics 400	Applied Practice Experience ( <u>4 units</u> )
•	Biostatistics 402A	Principles of Biostatistical Consulting (2 units)
•	Biostatistics 595	Effective Integration of Biostatistical Concepts in Public
		Health Research

and 12 units of biostatistics elective courses chosen from courses in the 200 series with course numbers from 203B, M208, 213 and above or from the 400 series.

Note: carefully check course prerequisites to ensure eligibility for the courses and consult with academic advisor, see <u>biostatistics catalogue</u>.

Required courses toward the degree must be taken for a letter grade.

#### 3. Applied Practice Experience (APEx):

MPH students in Biostatistics are required to complete an approved public health internship, referred to as an Applied Practice Experience (APEx) or field studies, of at least 400 hours to provide practical experience applying biostatistics. APEx is usually performed during the summer between the first and second year of the program. However, requirements for satisfying APEx begin in the winter quarter of the first year of the program. Students should consult the Biostatistics 400 handbook for details.

Students should begin identifying a suitable applied practice experience in the middle of their first year. The department will help with guidance and resources for identifying applied practice experience opportunities. APEx internships must be approved in advance.

Following the APEx internship, during the fall quarter of the second year, students enroll in 4 units of Biostatistics 400 ("Field Studies in Biostatistics").

Examples of sites where recent graduates have completed applied practice experiences include the Los Angeles County Department of Public Health, Boston Scientific Corporation, and Cedars-Sinai Medical Center.

## 4. The MPH Culminating Experience:

The MPH culminating experience in Biostatistics has written and oral components. In the spring quarter of their second year, the student must enroll in Biostatistics 595 with the faculty advisor supervising their project and complete the MPH Culminating Experience written and oral components. The MPH Culminating Experience promotes the ability of students to select relevant design and analysis techniques, synthesize knowledge, and apply insights to address public health problems.

The MPH Culminating Experience Written Report should demonstrate application of material in the curriculum to a public health problem. The report is often motivated by the APEx internship, but students can choose a different topic. The written report needs to be approved by the faculty member supervising the report. Examples of reports from recent graduates are available in the Biostatistics Library.

For the MPH Culminating Experience Oral Presentation, the student presents the MPH Culminating Experience Written Report to a faculty committee (consisting of a minimum of 3 members of the Biostatistics faculty, including the written report advisor) and answers related questions. The student must receive a pass from the faculty committee. Students should submit the Culminating Experience for the MPH in Biostatistics form to Roxy Naranjo at least 1-2 weeks prior to scheduling the oral presentation.

The Oral Presentation and Written Report may be repeated only once.

# **Example of Sequence of Classes for the M.P.H. Program in Biostatistics**

This sequence of classes is intended to serve as an example of a two-year M.P.H. Program in Biostatistics. In general, the faculty recommend that students take required courses in the sequence shown below. Students should meet with the faculty advisor to select electives which best suit their interests and goals.

	Fall	Winter	Spring
Year 1	Biostatistics 200A	Biostatistics 201B or 200B	Biostatistics 406 or 200C
	Biostatistics 203A	Community Health Policy 201	Biostatistics elective
	Epidemiology 201	Health Policy & Management 201	Biostatistics 402A
		Environmental Health Sciences 201	
Year 2	Biostatistics 211A	Biostatistics 211B Biostatistics elective	
	Biostatistics 400	Biostatistics elective	Public Health 401
	Biostatistics elective	Biostatistics elective	Biostatistics 595

A typical course load consists of 12 units. It is recommended that you consult with your academic advisor if you are considering taking a heavier course load.

## Competencies for the M.P.H. Program in Biostatistics

Upon graduation, a student with an M.P.H. degree in Biostatistics should have obtained core competencies in public health (including biostatistics, community health sciences, environmental health, epidemiology, health policy and management, and cross-cutting competencies). A complete list of these competencies is available <a href="here">here</a>. In addition, an MPH graduate with specialization in biostatistics should have acquired the following additional competencies:

- Demonstrate mastery of fundamental concepts of statistical analysis for datasets from health studies.
- 2. Employ computational methods for analysis of public data sets.
- 3. Recommend research study designs to support public health-relevant data analyses.
- 4. Contribute to the analysis of public health studies in collaborative multidisciplinary teams.
- 5. Prepare written and oral presentations providing public health insights based on statistical analyses.

# The Doctor of Philosophy in Biostatistics (Ph.D.)

#### **Preparation for the Degree:**

Mathematics preparation for the program should include at least two years of calculus. The prior coursework should cover material similar to that contained in the following UCLA courses:

•	Mathematics 31A, B	Calculus and Analytic Geometry
•	Mathematics 32A, B	Calculus of Several Variables
•	Mathematics 33A, B	Linear Algebra & Applications, Differential Equations
•	Mathematics 115A	Linear Algebra

UCLA students in the M.S. Program in Biostatistics who are considering further study in the Ph.D. Program should see page 29 for additional information.

## **Requirements for the Degree:**

Required courses must be taken for a letter grade (except Biostatistics 245 & 409). A typical course load is 12 units for first year students. It is recommended that you consult with your academic advisor if you are considering taking a heavier course load.

## 1. Course Requirements:

•	Mathematics 131A	Real Analysis	Must be taken in year 1 by students with limited or no prior experience with real analysis
•	Biostatistics 200 A, B, C	Methods in Biostatistics	,
•	Biostatistics 216	Mathematical Methods for Biostatistics	
•	Biostatistics 202A, B	Theoretical Principles of Biostatistics	
•	Biostatistics 250A, B	Linear Models	
•	Biostatistics 250C	Multivariate Biostatistics	
•	Biostatistics 257	Statistical Computing	
•	Biostatistics 245	Advanced Seminar: Biostatistics	Required every quarter starting the second year of graduate study at UCLA
•	Biostatistics 246	Doctoral Student Seminar	Must be taken twice before taking the oral qualifying exam.
•	Biostatistics 409	Doctoral Biostatistical Consulting Seminar	Required for two consecutive quarters before advancement to candidacy.

- One 4-unit course in Epidemiology (either Epi 100 or 200A)
- One 4-unit course in broad public health themes (PH C201 or HPM M242)
- Minimum of 6 4-unit elective biostatistics courses (24 units). The elective courses
  may be chosen from courses in Biostatistics 202C, 210, 213 and higher-numbered
  courses in the 200 series. To fulfill the six elective courses, students may formally

petition (using a <u>blue petition</u>) to enroll in courses in Statistics and Biomathematics. See page 54 for a list of some possible courses.

## 2. Ph.D. Preliminary Written Examination:

Students must pass one written examination, the Ph.D. Preliminary Exam, which is referred as the Ph.D. "screening" exam. This exam is offered once a year, in September just before the beginning of fall classes, and covers material in Biostatistics 200 A, B and C and Biostatistics 202 A, B. Students normally take this exam as soon as possible after having satisfactorily completed the relevant coursework, that is, at the beginning of their second year of study.

This exam is also taken by Biostatistics M.S. students as their M.S. Comprehensive Exam. Ph.D. students are expected to pass the exam at the doctoral level that would predict successful completion of the Ph.D. program. Students have a maximum of two attempts to pass the exam. Failure to secure a passing score in at most two attempts in the Ph.D. Preliminary Exam will result in the department recommending the student to the graduate division for academic disqualification.

Students who are admitted to the Ph.D. program from the UCLA Biostatistics M.S. program, and whose performance on the M.S. comprehensive exam was at the doctoral level that indicates the student is prepared to proceed with more advanced doctoral coursework, are not required to retake this exam.

#### 3. Oral Qualifying Exam (Dissertation Proposal):

The oral qualifying exam evaluates the student's understanding of statistical theory, ability to apply the theory, and the proposed dissertation topic. As part of the oral qualifying exam, the student must prepare a written dissertation proposal and present and defend the proposed work in front of their dissertation committee.

Students work with a dissertation advisor to prepare the dissertation proposal. Students are encouraged to learn about the research of faculty members in the department in order to find an advisor who is a good fit for their interests and will be given opportunities to do so. The faculty member and student need to mutually agree to the advisor-advisee relationship. Students should have an agreed-upon dissertation advisor within 1 quarter of completing core coursework. During or before the quarter when the student is completing core coursework, the student should meet with their academic advisor to formulate a plan for choosing a dissertation advisor. Students should generally switch to this advisor as their joint academic/dissertation advisor as soon as the decision is made.

The **dissertation committee** is formed in consultation with the student's dissertation advisor, who serves as chair of the committee, and should consist of 4 faculty members.

Rules apply as to which faculty may serve on the committee, and students should check with the SAO (Roxy Naranjo) to confirm that the committee is appropriately composed. For the form and regulations on how to form the doctoral committee, see: https://grad.ucla.edu/gasaa/library/docnomin.pdf

The **dissertation proposal** should include background, preliminary work, and a research plan for carrying out the work. While there are no absolute page requirements, the proposal is typically 15-50 pages with additional pages for figures and references.

The proposal should be distributed to members of the dissertation committee in advance of the exam. Generally, the proposal is expected to be delivered to committee members at least two weeks before the scheduled oral exam. If the student expects that the proposal will be delivered less than two weeks before the exam, the student should check with each committee member for advance approval.

During the oral exam, the student presents and defends the proposed work. The student can expect that most of the questions will pertain to the proposal; however, additional questions may be asked to assess general understanding of biostatistical principles. The overall objective of the exam is to evaluate whether the student has the ability and adequate plans for conducting Ph.D. dissertation research.

The committee will provide feedback to the students on their proposal using the Ph.D. **Dissertation Proposal Evaluation Rubric** (see *rubric below*). This rubric outlines important expectations for the proposal and students are advised to review this rubric while writing their proposal and preparing for the oral qualifying exam.

Students **without** a prior master's degree or equivalent in Biostatistics are expected to take the Oral Qualifying Examination within the first three years of their PhD study. Students **with** a prior master's degree in Biostatistics from UCLA are expected to take the Oral Qualifying Examination within the first two years of their PhD study.

The earliest that a student can take the Oral Qualifying Exam is during the quarter in which the degree course requirements and elective course requirements are being completed.

Passing this examination is required before a student is officially advanced to candidacy. A failed oral qualifying exam may be repeated once on the recommendation of the committee.

Student's name	Date of oral exam
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# **EVALUATION RUBRIC: Ph.D. Dissertation Proposal**

The purpose of this rubric is to provide students with feedback and guidance on their dissertation proposal. After the oral presentation, the committee will deliberate, and the committee chair will complete this form and share the feedback with the student.

After incorporating any modifications suggested by the committee during the course of the exam, the following criteria are met:		On this criteri	•
	Select Y or N	Need for substantial improvement	Substantial strength
1. The proposed dissertation identifies a problem whose solution would make a substantive statistical/scientific contribution.	Y/N		
2. The proposed approach is appropriate and likely to produce a useful answer to the problem.	Y/N		
3. The student has demonstrated sufficient technical command of the material to conduct the proposed work, or has a feasible plan to obtain the necessary skills.	Y/N		
4. The student has demonstrated sufficient understanding of the relevance of their research in the wider context, or has a feasible plan to obtain such understanding.	Y/N		
5. The written proposal clearly conveys the problem, proposed statistical methodology and broader context.	Y/N		
6. During the oral presentation, the student is able to explain the problem and proposed approach in a manner that is clear to both statistical and non-technical audience members.	Y/N		
7. The proposed plan for future work is feasible in terms of scope and timeframe.	Y/N		

Final Assessment:	
o Pass o Not pass (separate writte	en communication required)
Committee chair:	
Committee members:	

## 4. Annual progress meetings:

After advancing to candidacy, students must meet with their committee annually to present their dissertation progress. These meetings typically take place during the spring quarter. The first annual meeting should occur in the academic year following the year in which the student advanced to candidacy. For example, if a student advances in Fall, Winter, or Spring of the 2026–2027 academic year, or in Summer 2027, the first meeting would be held in Spring quarter of the 2027–2028 academic year. Students who schedule their final defense for spring quarter are not required to hold an annual meeting that year.

This meeting is expected to be no more than one hour in length including committee deliberations and may be held virtually (e.g., by Zoom). The student should prepare an oral presentation. A written document is not required. The committee will evaluate the adequacy of the student's progress, make recommendations, and help set goals for future progress.

#### 5. Ph.D. Dissertation and Oral Defense:

The Ph.D. dissertation is original research that advances the field of biostatistics. The dissertation is completed under the guidance of a Biostatistical faculty member who serves as the adviser. Examples of dissertations from previous graduates are available in the Biostatistics Library. After successfully completing a dissertation, an oral examination defending the dissertation is conducted by the dissertation committee. A failed examination may be repeated once on the recommendation of the committee.

Example: Ph.D. Timeline of Key Milestones

Milestone	Timeline
PhD preliminary exam	Fall of Year 2
Select dissertation advisor	Within 1 quarter of completing core coursework
Oral qualifying exam (Dissertation	Within 3 quarters of completing core coursework
proposal)	(Note: students must have completed or be currently
	enrolled in all required coursework in order to take the
	oral qualifying exam that quarter.)
Committee check-in meetings	Annually, ongoing
Dissertation final defense	Within 6 quarters of passing oral qualifying exam

# NOTES FOR PH.D. APPLICANTS WHO ARE EITHER CURRENTLY IN THE UCLA BIOSTATISTICS M.S. PROGRAM OR RECENT GRADUATES OF THE PROGRAM

Current UCLA Biostatistics M.S. students who plan to apply for admission to the Ph.D. program should take Mathematics 131A during their M.S. program.

The following applies to students who enter the UCLA Biostatistics Ph.D. having completed the UCLA Biostatistics M.S. program:

- **Sequence of coursework**: Students who hold a UCLA Biostatistics M.S. degree typically begin their Ph.D. program with year 2 course work on the chart on page 30.
- **Electives**: Up to 3 courses that were previously taken as Biostatistics electives for the M.S. degree may be applied toward the Ph.D. requirement of 6 elective courses, if the courses also qualify as electives for the Ph.D. program.
- **Ph.D. Preliminary Exam**: For students whose performance on the M.S. comprehensive exam was at the doctoral level, which indicates the student is prepared to proceed with more advanced doctoral coursework are not required to take the Ph.D. preliminary exam.
- **Epi/PH course requirements**: For students who fulfilled the requirement of one 4-unit course in Epidemiology and one 4-unit course in broad public health themes during their UCLA Biostatistics M.S. program are exempt from these requirements for the purposes of the Ph.D. program.

# **Example of Sequence of Classes for the Ph.D. Program in Biostatistics**

This sequence of classes is intended to serve as a guide for students in the Ph.D. program. Students should meet with their advisor to determine the optimal course sequence and to select electives which best suit their interests and goals. The sequence of classes to be taken during the first year of study depends on the student's background. Entering Doctoral students should consult with their academic advisor to determine a sequence of courses to best prepare the student for the written preliminary exam.

Fall	Winter	Spring
Biostatistics 200A	Biostatistics 200B	Biostatistics 200C
Biostatistics 216	Biostatistics 202A	Biostatistics 202B
Public Health C201 or Biostatistics 203A* or Mathematics 131A	Biostatistics 246	Epidemiology 100
	Biostatistics 203B* or Mathematics 131A	Mathematics 131A
- Ph.D. Preliminary Examination - Given at the beg	inning of fall term – Scope of exam: 200A, B, C, 20	2A, B (see page 25)
Biostatistics 250A	Biostatistics 250B	Biostatistics 250C
Biostatistics 245	Biostatistics 245	Biostatistics 257
Biostatistics elective	Biostatistics 246	Biostatistics 245
	Biostatistics elective	
Biostatistics elective	Biostatistics elective	Biostatistics elective or Epidemiology 100
Biostatistics 409	Biostatistics 409	Biostatistics 245
Biostatistics 245	Biostatistics 245	DIOSTATISTICS 245
Public Health C201 or Biostatistics elective		
	Biostatistics 200A  Biostatistics 216  Public Health C201 or Biostatistics 203A* or Mathematics 131A  - Ph.D. Preliminary Examination - Given at the beginner of the beginner	Biostatistics 200A Biostatistics 2016 Biostatistics 202A  Public Health C201 or Biostatistics 203A* or Mathematics 131A  -Ph.D. Preliminary Examination - Given at the beginning of fall term - Scope of exam: 200A, B, C, 20  Biostatistics 250A Biostatistics 250B Biostatistics 245 Biostatistics 245 Biostatistics 246 Biostatistics elective  Biostatistics elective  Biostatistics elective  Biostatistics 409 Biostatistics 245

<sup>\*</sup> Preparation for Doctoral Computing courses. Please note that 203AB cannot be used to satisfy the 24-unit elective requirement.

#### Competencies for the Ph.D. Program in Biostatistics

Upon graduation, a student with a Ph.D. degree in Biostatistics should have acquired the following competencies:

- 1. Demonstrate mastery of advanced theory and applications of statistical models.
- 2. Develop algorithms to implement advanced biostatistical methodologies.
- 3. Present effective seminars on biostatistical research and research in public health sciences.
- 4. Promote effective use of biostatistics in collaborative team research on public health problems.
- 5. Develop original research in the theory/methodology of biostatistics and demonstrate its application in a substantive field.

# Academic Calendar 2025-2026

The academic calendar for the current and future years is available at <a href="https://www.registrar.ucla.edu/Calendars/Annual-Academic-Calendar">https://www.registrar.ucla.edu/Calendars/Annual-Academic-Calendar</a>

# Fall Quarter 2025

Quarter begins Number of T

Study List deadline (becomes official)

Veterans Day holiday Thanksgiving holiday Instruction ends

Common final exams
Final examinations

Quarter ends

Christmas holiday

New Year's Eve/Day holiday

Winter campus closure

Monday, September 22

Thursday, September 25

Friday, October 10

Tuesday, November 11

Thursday-Friday, November 27-28

Friday, December 5

Saturday-Sunday, December 6-7

Monday-Friday, December 8-12

Friday, December 12

Tuesday-Wednesday, December 24-25

Wednesday-Thursday, December 31-

January 1, 2026

TBD

#### Winter Quarter 2026

Quarter begins Instruction begins

Study List deadline (becomes official)

Martin Luther King, Jr. holiday Presidents' Day holiday

Instruction ends

Common final exams

Final examinations

Quarter ends

Friday, January 2

Monday, January 5

Friday, January 16

Monday, January 19

Monday, February 16

Friday, March 13

Saturday-Sunday, March 14-15

Monday-Friday, March 16-20

Friday, March 20

#### Spring Quarter 2026

Quarter begins

César Chávez holiday

Instruction begins

Study List deadline (becomes official)

Memorial Day holiday

Instruction ends

Common final exams

Final examinations

Quarter ends

Wednesday, March 25

Friday, March 27

Monday, March 30

Friday, April 10

Monday, May 25

Friday, June 5

Saturday-Sunday, June 6-7

Monday-Friday, June 8-12

Friday, June 12

# Tentative Biostatistics Course Schedule 2025-2026

For the most updated course schedule information and classroom assignments, visit: <u>https://sa.ucla.edu/ro/Public/SOC</u>

# Fall 2025

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	Time/Day
Biostat 121	Biostatistics in Public Health	R. Brookmeyer	TR 1-2:50pm
Biostat 200A	Methods in Biostatistics A	A. Klomhaus	TR 8-9:50am
Biostat 201A	Introduction to Biostatistics	J. Zoller	TR 1-2:50pm
Biostat 202C	Theory of Bayesian Statistics	M. Guindani	M 1-2:50pm W 1-1:50pm
Biostat 203A	Introduction to Data Management and Statistical Computing	G. Kim	MW 1-2:20pm
Biostat 211A	Topics in Applied Regression	T. Belin	MWF 9-9:50am
Biostat 216	Mathematical Methods for Biostatistics	J. Xu	TR 10-11:50am
Biostat M236	Longitudinal Data	J. Xu	T 1-1:50pm R 1-2:50pm
Biostat 241	Spatial Modeling and Data Analysis for Health Sciences	S. Banerjee	T 10-11:50am R 10-10:50am
Biostat 245	Advanced Seminar: Biostatistics	S. Banerjee	MW 3-4:50pm
Biostat 250A	Linear Statistical Models	W. Wong	M 3-4:50pm W 1-1:50pm
Biostat 402B	Biostatistical Consulting	D. Elashoff	T 3-4:50pm
Biostat 409	Doctoral Statistical Consulting Seminar	T. Belin	M 10-11:50am
Biostat 410	Statistical Methods in Clinical Trials	S. Li	W 10-11:50am F 10-10:50am

# Winter 2026 (Tentative)

Biostat 121	Biostatistics in Public Health	J. Zoller	TR 2-3:50pm
Biostat 200B	Methods in Biostatistics B	A. Holbrook	MWF 11-11:50pm
Biostat 201B	Introduction to Biostatistics	J. Zoller	MW 1-2:50pm
Biostat 202A	Mathematical Statistics A	D. Senturk	M 1-2:50pm W 1-1:50pm
Biostat 203B	Introduction to Data Science in R	H. Zhou	T 3-4:50pm R 3-3:50pm
Biostat 211B	Topics in Applied Regression	T. Belin	MWF 9-9:50am
Biostat M215	Survival Analysis	G. Li	T 10-11:50am R 10-10:50am
Biostat 231	Statistical Power and Sample Size Methods for Health Research	C. Crespi	T 1-2:50pm R 1-1:50pm
Biostat 245	Advanced Seminar: Biostatistics	D. Senturk	MW 3-4:50pm
Biostat 246	Doctoral Students Seminar	D. Telesca	MW 3-4:50pm
Biostat 250B	Linear Statistical Models	W. Wong	M 3-5pm W 1-2pm
Biostat 402B	Biostatistical Consulting	F. Yu	M 3-4:50pm
Biostat 409	Doctoral Statistical Consulting Seminar	G. Li	T 8-9:50pm
Biostat 496	Teaching Biostatistics	J. Zoller	F 10-11:50am

# Spring 2026 (Tentative)

Biostat 100A	Introduction to Biostatistics	M. Lee	MW 8-9:50am
Biostat 200C	Methods in Biostatistics C	J. Zhou	T 10-11:50am R 10-10:50am
Biostat 202B	Mathematical Statistics B	M. Guindani	M 10-11:50am W 10-10:50am
Biostat M235	Causal Inference	F. Stoffi	TBD
Biostat M238	Methodology of Clinical Trials	W. Wong	WF 5pm-6:30pm
Biostat 244	Master's Seminar & Research Resources for Graduating Biostatistics MS Students	C. Ramirez	TR 1-2:50pm
Biostat 245	Advanced Seminar: Biostatistics	G. Li	WF 3-4:50pm
Biostat 250C	Multivariate Biostatistics	S. Banerjee	M 1-2:50pm W 1-1:50pm
Biostat M257	Computational Methods for Biostatistical Research	H. Zhou	T 1-2:50pm R 1-1:50pm
Biostat 402A	Principles of Biostatistical Consulting	G. Li	F 1-2:50pm
Biostat 406	Applied Multivariate Biostatistics	D. Telesca	TR 4-5:20pm

## Academic Standards and Procedures at UCLA

#### **General Information**

General regulations concerning graduate courses, standards of scholarship, disqualifications, appeals, leave of absences, normal progress toward degree, withdrawals and other matters can be found at: <a href="https://grad.ucla.edu/gasaa/library/spfgs.pdf">https://grad.ucla.edu/gasaa/library/spfgs.pdf</a>
The site also provides detailed information and sets forth general policies regarding completion of degree requirements, master's and doctoral committees and examinations.

The school-wide Fielding School of Public Health Student Affairs Office provides oversight and guidance of school-wide and departmental graduate program affairs, including admissions processing, degree processing, class scheduling, funding, orientation and graduation preparations, and general counseling to prospective, new and continuing students. Hours and Location: Monday-Friday 10:00am-3:00pm. Room 16-068 Center for Health Sciences. Phone Number: (310) 825-5524.

#### **English as a Second Language**

All international graduate students are required to take the ESLPE. You were notified as part of your admissions offer from the university if you are required to take the ESLPE. For an explanation of the requirement, see "English Language Proficiency" in the <a href="UCLA">UCLA</a> <a href="UCLA">Catalog</a> and visit the Writing Requirement for International Graduate Students <a href="here">here</a>.

#### **Full-Time Student Status**

To be considered a full time UCLA graduate student, students must be enrolled for a minimum of 8 units per quarter. Students holding GSR, teaching assistantship, or special reader positions must be enrolled for a minimum of **12 units.** 

#### **Advancing to Candidacy**

#### M.S. and M.P.H. Degrees:

Students who wish to graduate in the spring quarter must petition for advancement to candidacy prior to the deadline. This deadline will be announced at the graduation workshop, which will be held in February. Advancement to candidacy is a requirement for all M.S. and M.P.H. degree candidates. If you miss the workshop, petitions for advancement to candidacy can be picked up in the Student Affairs Office, Room A1-269 CHS. The forms must be completed and returned to the Student Affairs Office. Please be sure to complete all required information and follow special instructions per the direction on the forms or by the Student Affairs Office Staff.

Students who wish to graduate in the fall or winter quarters must petition for Advancement to Candidacy prior to the end of the second week of the chosen quarter.

The Student Affairs Office posts the specific deadlines.

In addition to completing all the required course work, M.S. students are required to complete a written M.S. report as part of their graduation requirement. This report is part of the Biostatistics 596 course requirement and is due in the final term of study, usually spring term. The final version of the M.S. report should be emailed to <u>Roxy Naranjo</u> once it is approved by the M.S. report advisor.

#### **Doctoral Degree:**

Advancement to candidacy is also a requirement for students in the Ph.D. program. Before advancing to candidacy, doctoral students must form their doctoral dissertation committee by filling out the <u>Nomination of Doctoral Committee</u> form and submitting it to Roxy Naranjo. Students should schedule to meet with Roxy Naranjo for a brief 10–15-minute meeting to discuss their planned committee members and obtain information about the process.

Students normally form their dissertation doctoral committee upon completion of the required coursework (or during the term completing the last required courses). To obtain the necessary forms and policy on how to officially form your Doctoral Dissertation Committee, visit: <a href="http://www.gdnet.ucla.edu/gasaa/library/degreeinfo.htm#Doctoral">http://www.gdnet.ucla.edu/gasaa/library/degreeinfo.htm#Doctoral</a>

Only once the doctoral committee is officially approved by the Graduate Division, students may take their Oral Qualifying Examination & Advancement to Candidacy. Students are responsible for informing their committee members of the date and time that best works for everyone for the Oral Qualifying & ATC. They must also inform Roxy Naranjo of the date and time, at least two weeks prior to the exam. Students should also secure a meeting room for the Oral Qualifying & ATC by emailing Neilufar Modiri (nmodiri@mednet.ucla.edu). The students are responsible for paying the Advancement to Candidacy fees on Bruin Bill.

#### **Academic Disqualification and Appeal**

A graduate student may be disqualified from continuing in the graduate program for a variety of reasons. One reason is failure to maintain the minimum cumulative GPA of 3.0. The conditions when that could happen and procedures for appeal are described at <a href="https://grad.ucla.edu/gasaa/library/spfgs.pdf">https://grad.ucla.edu/gasaa/library/spfgs.pdf</a>. Students feeling academically challenged should consult with their advisers.

#### **Academic Integrity**

With its status as a world-class research institution, it is critical that the University uphold the highest standards of integrity both inside and outside the classroom. As a student and member of the UCLA community, you are expected to demonstrate integrity in all of your academic endeavors. Accordingly, when accusations of academic dishonesty occur, The Office of the Dean of Students is charged with investigating and adjudicating suspected violations. Academic dishonesty includes, but is not limited to, cheating, fabrication, plagiarism, multiple submissions or facilitating academic misconduct. For more information, visit: <a href="https://www.deanofstudents.ucla.edu/Academic-Integrity">https://www.deanofstudents.ucla.edu/Academic-Integrity</a>.

#### **Leave of Absence**

Continuing graduate students in good academic standing (3.0 GPA or above) who have completed at least one quarter of academic residence at UCLA may petition to take a leave of absence if approved by the Home Department and the Graduate Division. Graduate students are allowed a maximum of three quarters of official leave of absence. Federal policy governing students on F-1 and J-1 visas restricts leaves of absence to certain conditions. To petition for a leave of absence, fill out a "Leave of Absence Request" form, and submit it to the SPH Student Affairs Office.

For more details: <a href="http://www.gdnet.ucla.edu/gasaa/library/loa.htm">http://www.gdnet.ucla.edu/gasaa/library/loa.htm</a>

#### Filing Fee

The filing fee is used for filing a dissertation or thesis and/or formal final examination for the doctor's or the master's degree when a candidate has completed all other degree requirements. Graduate students (who meet the criteria listed on the Filing Fee Application) can apply for a Filing Fee and pay a nominal fee in lieu of standard tuition and registration fees. Filing Fee is intended for students who are in good academic standing and who have completed all degree requirements except for filing their dissertation or thesis, submitting their capstone project, or taking their comprehensive exam. While on Filing Fee status, a student may no longer: take courses, be employed by UCLA, receive financial support, or access certain campus services. Please refer to the <u>Status and Filing Fee Eligibility Flow Chart</u> to assist with determining eligibility for Filing Fee usage.

For detailed information on the filing fee requirements and to access the Filing Fee application, visit: <a href="https://grad.ucla.edu/academics/graduate-study/filing-fee-application/">https://grad.ucla.edu/academics/graduate-study/filing-fee-application/</a>.

Students may use the Filing Fee application only if they were registered for the previous academic term and satisfy the eligibility criteria.

Students may only apply, pay and be on a filing fee one time.

### Health & Wellness

#### **Arthur Ashe Student Health and Wellness Center**

All registered graduate students may use the Arthur Ashe Student Health and Wellness Center; an outpatient clinic geared to the needs of students at UCLA. The Ashe Center offers a full range of clinical and support services, most of which are prepaid by student registration fees. The clinical staff is composed of highly qualified doctors, nurse practitioners, and nurses.

https://www.studenthealth.ucla.edu/

#### Mental Health Resources: Counseling and Psychological Services (CAPS)

UCLA has resources to help support you through challenging times. If you ever need someone to talk to and would prefer to speak with a professional, the UCLA Counseling & Psych Services team is more than equipped to be that someone for you. The center provides confidential individualized therapy and psychiatric care, provided by a diverse and multicultural competent professional staff. CAPS is a warmly welcoming environment located centrally on the UCLA campus. CAPS also provides a range of programs to promote mental health, emotional resilience and wellness throughout the campus community. The 24-hour telephone access line is (310) 825-0768. Crisis counseling available 24-hours a day by phone. Visit: <a href="https://counseling.ucla.edu/">https://counseling.ucla.edu/</a>.

The Biostatistics Department is here to support you. If you ever need anything or don't know where to start, reach out to Roxy Naranjo your SAO, or any of the faculty members, who will be there to help you and guide you to connect you with campus resources.

#### **Exercise and Recreation**

Students can obtain a gym membership for free starting the first day of fall quarter. UCLA Recreation offers state-of-the-art fitness workouts, masters swim workouts, intramural and club sports, dozens of recreation classes, water sports at the Marina Aquatic Center, and open recreation at most campus facilities. Across from the Ackerman Student Union, you will find the Wooden Fitness Center. The BruinCard is required to enter the Center. This

facility offers many different types of fitness and recreation classes, as well as various exercise machines and a full weight room. For information, contact Cultural and Recreational Affairs (310) 825-3701 or visit www.recreation.ucla.edu.

#### **Medical Insurance Requirement / Waiving Ship**

As a condition of registration, the University requires that all graduate and professional students, including international students on non-immigrant visas, have medical insurance coverage that meets the University's minimum requirements. Contact the Insurance Office on the fourth floor of the Arthur Ashe Student Health and Wellness Center for details regarding the campus Student Health Insurance Plan.

https://www.studenthealth.ucla.edu/insurance

#### **Center for Accessible Education (CAE)**

The UCLA Center for Accessible Education (CAE) provides services designed to meet the unique educational needs of regularly enrolled, matriculated students with documented permanent and temporary disabilities. CAE provides access to the numerous educational opportunities available to students on our campus and empowers students to realize their academic potential.

To obtain disability-related accommodation and services through the CAE, students should complete a Request for Services form and upload appropriate documentation. Students may also download and complete a printable version of the Request for Services form and email or fax it to the CAE at (310) 825-9656. For more information visit: <a href="https://www.cae.ucla.edu/">https://www.cae.ucla.edu/</a>

Services are designed to meet the unique educational needs of regularly enrolled students with documented permanent and temporary disabilities.

#### **Graduate Student Resource Center**

For academic support, the UCLA Graduate Student Resource Center offers many resources for students, including writing and public speaking workshops. <a href="https://gsrc.ucla.edu/">https://gsrc.ucla.edu/</a>

# **Campus Safety**

#### **UCLA Bruins Safe Online**

Bruins Safe is an essential tool to enhance your safety at UCLA. The app will send you important safety alerts and provide instant access to campus safety resources. BruinsSafe is the official mobile safety app of UCLA. We strongly encourage you to install the app on your smartphone. <a href="https://bso.ucla.edu/">https://bso.ucla.edu/</a>

Bruins Safe benefits include:

- Safety notifications: Receive instant notifications and instructions from campus safety when on-campus emergencies occur.
- Emergency help: Contact campus safety staff quickly for help in an emergency.
- Campus safety resources: Access all important safety resources in one convenient app.

To report an emergency, call 911. Non-emergency calls can be reported to the UCLA Police Department at (310) 825-1491 (<a href="https://police.ucla.edu/">https://police.ucla.edu/</a>). The UCLA Police Department offers a variety of information on community outreach, crime prevention, and safety and security services.

#### **Campus Escort Service**

Campus Security Officers are available for a walking escort free of charge to students, faculty, staff, or visitors 365 days a year from dusk until 1 a.m. The campus escort services are provided between campus buildings, local living areas, and the Westwood Village within the approximate boundaries of Sunset Boulevard to the north, Hilgard Avenue to the east, Wilshire Boulevard to the south, and Veteran Avenue to the west. You may call the provided number for a campus escort. Please allow fifteen to twenty minutes for your campus escort to arrive. <a href="https://police.ucla.edu/cso/evening-escorts">https://police.ucla.edu/cso/evening-escorts</a> or (310) 794-WALK

#### **UCLA SafeRide**

The UCLA SafeRide provides a safe means of transportation around campus during **evening hours M-F**. The vans provide transportation between campus buildings, on-campus housing, and nearby residential areas. The service is free for UCLA students, employees, and visitors. Route maps and link to downloadable app are available: https://transportation.ucla.edu/getting-around-campus/nighttime-safety-mobility

#### Office of Equity, Diversity and Inclusion (EDI)

UCLA's Office of Equity, Diversity and Inclusion (EDI) leads and advances strategies for enhancing equity, diversity and inclusion; protecting civil rights; and upholding dignity for all in our community. For more information visit: <a href="https://equity.ucla.edu/">https://equity.ucla.edu/</a>

#### Title IX/Sexual Harassment

Every member of the University community should be aware that the University will not tolerate sexual harassment and that such behavior is prohibited both by law and by university policy. The University will take whatever action is necessary to prevent and correct such behavior and, if appropriate, discipline persons whose behavior violates this policy. For more information on disciplinary actions, visit the website of the Dean of Students <a href="https://deanofstudents.ucla.edu/">https://deanofstudents.ucla.edu/</a>.

Any student who believes that they have been sexually harassed may contact a Sexual Harassment Information Center counselor for help and information. Complete details on contacting a counselor and a link to the complete UC policy on sexual harassment are available on the Dean of Students' website. Scroll down to "Student Conduct" and then select "Responding to Reports of Sexual Harassment."

#### **Emergency Situations and Emergency Preparedness**

No one knows when an emergency will occur, so everyone should understand basic safety practices. Be prepared to respond safely to fire, earthquake, or other emergency situations. For more information visit Student Affairs Emergency Preparedness: <a href="https://emergency.studentaffairs.ucla.edu/">https://emergency.studentaffairs.ucla.edu/</a>.

# **Parking & Transportation**

#### **Public Transportation**

UCLA highly encourages the use of public and alternate transportation. Please visit <u>www.transportation.ucla.edu</u> to learn more about alternate methods of getting to campus and for more info about public transportation to Westwood.

#### **Parking**

Information on how to apply for a parking permit, vanpool, rideshare, GoBruin bus program, and other available transportation services, go to:

https://main.transportation.ucla.edu/campus-parking. Their office is located at 555 Westwood Plaza, corner of Westwood Blvd. & Strathmore Avenue (in front of Parking Structure 8, Level 2).

## **Biostatistics Student Affairs Office**

The Student Affairs Officer (SAO) for the Biostatistics Department is Roxy Naranjo. Her office room number is 51-236A CHS, phone number is (310) 267-2186 and her email is rlnaranjo@ph.ucla.edu.

If you have any questions about degree requirements or academic procedures, an excellent first step to get your questions answered or issues resolved is to contact Roxy Naranjo.

The Biostatistics Department's SAO works with students providing advice on how to get the most out of their graduate experience, navigating relationships with faculty, and the university's policies and procedures. The SAO's main responsibilities include helping students understand and comply with university rules and regulations and assisting them in navigating through administrative issues related to their degree. The SAO is a key resource for students to get assistance on all related student matters. In addition, the SAO also focuses on providing additional assistance to at-risk students who are struggling academically, personally, financially or mentally and helps them in finding targeted services to support them.

# **Biostatistics Faculty Advising**

Students are assigned a faculty advisor prior to the beginning of their academic program. Students should initially contact their advisors to discuss their course of study and thereafter should stay in contact on a regular basis. Students are expected to meet with their advisors at least once per quarter to discuss academic progress, problems, and courses. Students may change advisors. A blue student petition should be used for this request. Approval by both the faculty member and the Biostatistics Department Chair must be obtained.

# The Frank J. Massey Biostatistics Library

The Department of Biostatistics Library is named in honor of Frank J. Massey, Jr., Ph. D, a long-time UCLA School of Public Health faculty member. The library is accessed through the main office of the Department of Biostatistics (51-254ACHS) and is located on the right as you enter the main office.

The library has books, journals, and dissertations from prior graduates and a large conference table. Students are very welcome to work in the library if it has not been previously reserved for an event. The library is also used for Biostatistics faculty meetings, student exams, and other events.

Items may be checked out with the following procedures:

- Masters' Reports, Journals, and doctoral Dissertations are only for 2-hour check-out.
   Bring your student ID & item(s) to Student Affairs Officer Roxy Naranjo for a 2-hour check out.
- All other books should be checked out using the following procedure: find the pocket inside the book; fill out a book card and file it in the box located in the library by the author's name.

For questions, please see Neilufar Modiri, Roxy Naranjo, or Ruzanna Margaryan; fill out the check-out sheet located in the blue binder with name, date, and email. To return books, please leave items next to the book catalog and sign out from the check-out sheet. All check-out items are due within 3 weeks of the borrowed date.



# **Biostatistics Student Office Space**

The Biostatistics Department has two office rooms for biostatistics graduate students, A1-228 CHS and A1-227 CHS. These offices are located on level A of the Fielding School of Public Health.

A1-228 CHS is available to all master's and doctoral students in the Department of Biostatistics.

A1-227 CHS is only available to students who have passed the written comprehensive doctoral exam.

To obtain a space, please complete the application provided to you during orientation which can also be found on the Dept. website or email Roxy Naranjo.

#### **Biostatistics Seminar Series**

The Department has a regular seminar series that is open to all students and faculty. The seminar speakers include biostatisticians from around the world who come to speak about their work and issues in the field of biostatistics. The seminars are typically held on Wednesdays during the academic year at 3:30PM in one of the lecture halls in the Center for Health Sciences. The seminars generally end by 4:30PM. **Please keep up with email/Slack announcements for updates.** 

Refreshments are usually available prior to the seminar, at 3PM, in the Massey Biostatistics library. Usually, these gatherings allow for informal chatting, socializing and an opportunity to meet the seminar speaker. For virtual seminars, these gatherings may not be offered. Please see each seminar's associated flyer for more information.

Notices are posted on slack about the upcoming seminar for the week.

## Student Mail

Each student has a folder in which they can receive mail. The folders are located in the main office (51-254 CHS). As you walk in the office, the folders are in a file cabinet on your left. Announcements and mail arriving at the Biostatistics office will be placed in your folder. Students should check their mail folders regularly. Please do not have personal mail sent to the Department.

# **Student Employment Opportunities**

Graduate students in biostatistics are often able to find employment related to biostatistics (e.g. special readers, teaching assistants (TAs), or graduate student researchers (GSRs)). The GSR and special reader positions may provide fee remissions in addition to the standard pay. In some cases, GSR can also qualify for non-resident tuition remission.

If you are seeking employment, a good first step is to add the jobs (GSR and TA) slack channels. You can also inquire directly with faculty for GSR positions or email Roxy Naranjo. If you are interested in being a Teaching Assistant and are an international student, make sure that you have taken the Test of Oral Proficiency (TOP) test. For more information visit: <a href="https://wp.ucla.edu/test-of-oral-proficiency-top-exam-overview/">https://wp.ucla.edu/test-of-oral-proficiency-top-exam-overview/</a>

In addition, consider contacting the Career Center (<a href="https://career.ucla.edu/">https://career.ucla.edu/</a>) for work study opportunities, as well as the Financial Aid Office (<a href="http://www.financialaid.ucla.edu/">http://www.financialaid.ucla.edu/</a>.)

## **Blue Petition**

https://na3.docusign.net/Member/PowerFormSigning.aspx?PowerFormId=ab84f317-24bc-4d3c-859e-8b41a9d0f344&env=na3&acct=758e9565-0575-48f8-a63b-b8c8c99161ec&v=2

Blue petitions should be filed prior to any variation from stated policy, not after, discussed with the academic advisors and secure their signature on the form and sent to Roxy via Message Center. Check with Roxy Naranjo to confirm you are following the correct procedures.

## List of All Biostatistics Courses

Below is a list of all biostatistics courses that are offered. However, please note that many courses are not offered each year. Course descriptions and further details can be found at https://registrar.ucla.edu/academics/course-descriptions

#### 200A. Methods in Biostatistics A

Units: 4.0

200B. Methods in Biostatistics B

Units: 4.0

200C. Methods in Biostatistics C

Units: 4.0

201A. Introduction to Biostatistics

Units: 4.0

201B. Introduction to Biostatistics

#### 202A. Mathematical Statistics A

Units: 4.0

#### 202B. Mathematical Statistics B

Units: 4.0

## 202C. Theory of Bayesian Statistics

Units: 4.0

## 203A. Introduction to Data Management and Statistical Computing

Units: 4.0

#### 203B. Introduction to Data Science in R

Units: 4.0

# 203C. Introduction to Data Science in Python

Units: 4.0

## M208. Introduction to Demographic Methods

Units: 4.0

## 211A. Topics in Applied Regression

Units: 4.0

## 211B. Topics in Applied Regression

Units: 4.0

## 212A. Statistical Learning A

Units: 4.0

# 212B. Statistical Learning B

## 213. Introduction to Computational Methods in Biostatistics

Units: 4.0

## 214. Finite Population Sampling

Units: 4.0

## M215. Survival Analysis

Units: 4.0

#### 216. Mathematical Methods for Biostatistics

Units: 4.0

#### 218. Observational Health Data Science and Informatics

Units: 4.0

## 219. Special Topics: Supplemental Topics

Units: 4.0

## 230. Statistical Graphics

Units: 4.0

## 231. Statistical Power and Sample Size Methods for Health Research

Units: 4.0

## M232. Statistical Analysis of Incomplete Data

Units: 4.0

#### 233. Statistical Issues in Global Health

Units: 4.0

## M234. Applied Bayesian Inference

#### M235. Causal Inference

Units: 4.0

# M236. Longitudinal Data

Units: 4.0

## M237. Applied Genetic Modeling

Units: 4.0

## M238. Methodology of Clinical Trials

**Units: 4.0** 

## M239. Mathematical and Statistical Phylogenetics

Units: 4.0

# 241. Spatial Modeling and Data Analysis for Health Sciences

Units: 4.0

# 244. Master's Seminar and Research Resources for Graduating Biostatistics MS Students

Units: 4.0

#### 245. Advanced Seminar: Biostatistics

Units: 2.0

#### 246. Doctoral Students Seminar

Units: 2.0

#### 250A. Linear Statistical Models

#### 250B. Linear Statistical Models

Units: 4.0

## 250C. Multivariate Biostatistics

Units: 4.0

## 255A. Advanced Probability and Statistics

Units: 4.0

## 255B. Advanced Probability and Statistics

Units: 4.0

# M257. Computational Methods for Biostatistical Research

Units: 4.0

#### 270. Stochastic Processes

Units: 4.0

## M272. Theoretical Genetic Modeling

Units: 4.0

## 273. Machine Learning

Units: 4.0

## 274. Topics in Statistical Machine Learning

Units: 4.0

#### 275. Advanced Survival Analysis

Units: 4.0

## 276. Inferential Techniques that Use Simulation

## 277. Robustness and Modern Nonparametrics

Units: 4.0

# 279. Optimal Design Theory and Application

Units: 4.0

## **M280. Statistical Computing**

Units: 4.0

## 285. Advanced Topics: Recent Developments

Units: 4.0

## 296. Seminar: Research Topics in Biostatistics

Units: 1.0 to 4.0

#### 400. Field Studies in Biostatistics

Units: 4.0

## 401. Data Science Capstone

Units: 4.0

## 402A. Principles of Biostatistical Consulting

Units: 2.0

#### 402B. Biostatistical Consulting

Units: 4.0

# M403B. Computer Management and Analysis of Health Data Using SAS

Units: 4.0

## 406. Applied Multivariate Biostatistics

## 409. Doctoral Statistical Consulting Seminar

Units: 2.0

#### 410. Statistical Methods in Clinical Trials

Units: 4.0

## 411. Analysis of Correlated Data

Units: 4.0

#### 413. Introduction to Pharmaceutical Statistics

**Units: 4.0** 

## 495. Teacher Preparation in Biostatistics

Units: 2.0

#### 496. Teaching Biostatistics

Units: 2.0

# 595. Effective Integration of Biostatistical Concepts in Public Health Research

Units: 4.0

#### 596. Directed Individual Study or Research

Units: 2.0 to 8.0

# 597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations

Units: 2.0 to 12.0

#### 599. Doctoral Dissertation Research

Units: 2.0 to 12.0

#### **Other Courses of Interest**

Some courses from other UCLA departments such as the Department of Statistics may qualify as a Biostatistics elective. You will need approval from your academic advisor and Department Chair (via <u>blue petition</u>). Approval should be obtained before enrolling in the course, not after. Listed below are some possible courses:

Statistics 218 Statistical Analysis of Networks (4)

Statistics M232A Statistical Modeling and Learning in Vision and Science (4)

Statistics 242 Multivariate Analysis with Latent Variables (4)

Statistics M243 Logic, Causation, and Probability (4)

Statistics C261 Introduction to Pattern Recognition and Machine Learning (4)

Statistics 271 Probabilistic Models of Visual Cortex (4)