UCLA FIELDING SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF   BIOSTATISTICS

STUDENT HANDBOOK
2023-2024

https://ph.ucla.edu/departments/biostatistics

CONTENTS

1. 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 masters 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/

2. ABOUT THE DEPARTMENT

HISTORY AND MISSION

Welcome to the Biostatistics Department at UCLA. 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 reorganized into five departments from a single school-wide departmental structure. The Department of Biostatistics was organized 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 an extremely large number of diverse disciplines.

ADMINISTRATION

Dept. Chair: Damla Senturk
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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   Office #:   51-239C CHS
Joint appointment with Biomathematics   Phone #: (310) 825-0707
Email: afifi@ucla.edu   Fax #:   (310) 267-2113
Research Interests: Multivariate analysis, clinical trials, multi-level models and public health.

Hilary Aralis, Ph.D., UCLA.
Assistant Professor In-Residence   Office #: A8-159A CHS
Email: haralis@mednet.ucla.edu   Phone #: (310) 794-0119
      Fax #: (310) 794-6159

Research Interests: Inference for multi-state models with incompletely observed data, uncertainty in Markov and semi-Markov process estimation, latent variable modeling, measurement error in mental health assessment.

Sudipto Banerjee, Ph.D., University of Connecticut, Storrs.
Professor
Joint Appointment with Statistics; UCLA Institute of the Environment & Sustainability
      Office #:   51-254B CHS
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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.

Thomas R. Belin, Ph.D., Harvard.
Professor   Office #:   51-267 CHS
Joint appointment with Psychiatry/Biobehavioral Sci.   Phone #: (310) 206-7361
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Research Interests: Missing Data, causal inference, record linkage, mental health research.

Ronald Brookmeyer, Ph.D., University of Wisconsin
Professor   Office #:   51-253B CHS
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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.

Catherine M. Crespi, Ph.D., UCLA.
Professor In-Residence   Office #:   A2-125 CHS
Affiliation: Jonsson Comprehensive Cancer Center,   Phone #: (310) 206-9364
Division of Cancer Prevention and Control Research   Fax #:   (310) 267-2113
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Research Interests: Analysis of recurrent events data, group randomized trials, hidden Markov Models, and Bayesian Methods.

Dorota M. Dabrowska, Ph.D., Berkeley.
Professor Emerita   Office #:   51-253C CHS
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Research Interests: Inference in nonparametric and semiparametric models, survival analysis, counting processes, data transformations.

Xiaowu Dai, Ph.D., University of Wisconsin
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Research Interests: Brain imaging analysis and biomedical research; neuroimaging, cardiovascular disease, kidney exchanges

Sean Darling-Hammond, Ph.D., UC Berkeley
Assistant Professor
Joint appointment with Community Health Sciences
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David A. Elashoff, Ph.D., Stanford.
Adjunct Professor   Office #:   21-254C CHS
Joint appointment with Medicine   Phone #: (310) 794-7835
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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.

Zhe Fei, Ph.D., University of Michigan
Assistant Adjunct Professor   Office #: 21-293D CHS
Email: feiz@g.ucla.edu   Fax #:   (310) 267-2113
Research Interests: Cancer, Genetics, Statistical Methodology and Survival Analysis

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 Microbiome. Statistical decision-making under uncertainty,

Multiple comparison problems, Clustering, Bayesian modeling, and Bayesian Nonparametrics.

Andrew Holbrook, Ph.D., UC Irvine
Assistant Professor

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

Grace Kim, Ph.D., UCLA
Professor In-Residence
Joint appointment with Radiological Science

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Phone #: (310) 794-8679

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Research Interests: Classification, analysis in spatially and temporally correlated data, and patter recognition of therapeutic response in medical imaging data.

Christina Ramirez, Ph.D., Cal Tech.
Professor

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

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

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Research Interests: Robust statistical methods in Pharmacokinetics.

Gang Li, Ph.D., Florida State.
Professor

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Fax #:

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
Joint appointment with Statistics

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Research Interests: *Developing new statistical methods for understanding biological questions, especially those related to large-scale genomic and transcriptomic data.*

Honghu Liu, Ph.D., UCLA
Professor   Office #:   63-037A CHS
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Research Interests: AIDS, compliance, Application to Dental Health.

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

Damla Senturk, Ph.D., UC Davis.
Professor   Office #:   21-254C CHS
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                                                                   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
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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.

Donatello Telesca, Ph.D., University of Washington
Professor   Office #:   21-254 CHS
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                                                                   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
                                                          Phone #: (310) 206-9626
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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
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                                                          Fax #:   (310) 267-2113
Research Interests: Optimal design of experiments, linear models, pharmacokinetics, clinical trials, research in rheumatology, cancer control and prevention studies.

Hua Zhou, Ph.D., Stanford.
Professor
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                                                          Phone #: (310)794-7835
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
Associate Professor In-Residence
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Research interests: Statistical genetics, biomedical informatics, electronic health records, smart health, longitudinal data, survival data, diabetes care

EMERITI FACULTY

Abdelmonem A. Afifi, 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

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

Donald Guthrie, Ph.D., Stanford.
Professor Emeritus
Joint appointment with Psychiatry and Biobehavioral Science
Areas of Interest: Applications in mental retardation and child psychiatry, statistical computing.

Robert I. Jennrich, Ph.D., UCLA.
Professor Emeritus
Area of Interest: Statistical computing.

3. 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:

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 C150/C201 or HPM M242)
  - A minimum of 24 units of electives in the Department of Biostatistics. The elective courses may be chosen from courses selected from Biostatistics 202C, 203A, 203B, 212, 214, M215, Biostatistics 230-241 series, Biostatistics 406, 410, 411 and 413 (see page 39). 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 blue petition (see page 43) in advance of taking the course (see page 47 for 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.

  All required courses (except 402B) must be taken for a letter grade.

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 in 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 16,2023) in order to graduate. For specific deadlines see page 36. Examples of Master's 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 grade in at most two attempts in 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.

UCLA students in the M.S Program in Biostatistics who are considering further study in the PhD Program should see page 23 for additional information.

A typical course load is 12 units per term for first year students. It's 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 216 Biostatistics 203A and/or Public Health C150/C201	Biostatistics 200B Biostatistics 202A Biostatistics 203B and/or Biostatistics elective	Biostatistics 200C Biostatistics 202B Biostatistics 402A 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 11)		
Year 2	Biostatistics elective Biostatistics elective or Public Health C150/C201 Biostatistics 402B*	Biostatistics elective Biostatistics elective Biostatistics elective	Biostatistics 244 Biostatistics 596 Epidemiology 100 Biostatistics elective
	* Biostat 402B is taken once during the second year (the quarter is determined at the beginning of fall term). Courses that count toward the Biostat elective requirement are: courses in the 200 series with course numbers of 203 and above, and no more than one course from the 400 series (see page 43).		

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

M.S. PROGRAM IN BIOSTATISTICS: COMPETENCIES

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

1. 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.

4. 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, B   Calculus and Analytic Geometry
- • Mathematics 32A   Calculus of Several Variables

REQUIREMENTS FOR THE DEGREE:

1. CORE COURSE REQUIREMENTS IN PUBLIC HEALTH (12 UNITS):
   - Public Health 200A
   - Public Health 200B
   - Public Health 401

2. COURSE REQUIREMENTS IN BIOSTATISTICS:

M.P.H. 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, 100B, and 406
- Biostatistics 200A, 200B, and 200C
- Biostatistics 200A, 200B, and 406.

The difference between the biostatistics methods sequences (200A, 100B, 406 vs. 200A, 200B, 200C) is that the 200 sequence has more technical and mathematical detail while the 100B/406 sequence focuses on more practical applications. The 200 sequence is taken by M.S. students in the Department of Biostatistics while the 100B/406 sequence is often taken by M.P.H. students in other departments in the 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 (rlnaranjo@ph.ucla.edu) and the 200-course instructor.

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

- • Biostatistics 201A   Topics in Applied Regression
- • Biostatistics 201B   Topics in Applied Regression
- • Biostatistics 203A   Computer Management of Health Data
- • Biostatistics 400   APEx: Applied Practice Program (4 units)
- • 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 of 203B and above or from the 400 series.

Note: carefully check course prerequisites to ensure eligibility for the courses and consult with academic advisor, see page 43.

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

3. APEx: APPLIED PRACTICE PROGRAM

M.P.H. students in Biostatistics are required to complete an approved public health internship of at least ten weeks (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 winter quarter of the first year of the program*. Students should consult the Biostatistics 400 handbook for details.

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

Following the internship, during 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 had field experiences include the Los Angeles County Department of Public Health, Boston Scientific Corporation, and Cedars Sinai Medical Center.

4. THE M.P.H. CULMINATING EXPERIENCE

The M.P.H. 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 must complete the M.P.H. Culminating Experience written and oral components. The M.P.H. 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 M.P.H. 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 / Field Studies 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 M.P.H. Culminating Experience Oral Presentation, the student presents the M.P.H. 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 M.P.H. 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 recommends that students take required courses in the sequence shown below. 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 203A Public Health 200A	Biostatistics 100B or 200B Biostatistics 203B (elective) Public Health 200B	Biostatistics 406 or 200C Biostatistics elective Biostatistics 402A
Year 2	Biostatistics 201A Biostatistics 400 Public Health 401	Biostatistics 201B Biostatistics elective Biostatistics elective	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.

M.P.H. PROGRAM IN BIOSTATISTICS: COMPETENCIES

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 [here](). In addition, an MPH graduate with specialization in biostatistics should have acquired the following additional competencies:

1. 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.

5. 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 23 for additional information.

REQUIREMENTS FOR THE DEGREE:

1. COURSE REQUIREMENTS:

- Biostatistics 200 A, B, C   Methods in Biostatistics
- Biostatistics 202A, B   Theoretical Principles of Biostatistics
- Biostatistics 216   Mathematical Methods for Biostatistics
- Biostatistics 250A, B   Linear Models
- Biostatistics 250C   Multivariate Biostatistics
- Biostatistics 257   Statistical Computing
- Biostatistics 245 & 246   Doctoral Seminar (see note A below)
- Biostatistics 409   Biostatistics Consulting (see note B on page 21)
- Mathematics 131A*   Real Analysis

- One 4-unit course in Epidemiology (either Epi 100 or 200A)
- One 4-unit course in broad public health themes (PH C150/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 and above. To fulfill the six elective courses, students may formally petition (using a blue petition) to enroll in courses in Statistics and Biomathematics. (See page 48 for a list of some possible courses).

*Mathematics 131A must be taken in year 1 by students with limited or no prior experience to Real Analysis.

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's recommended that you consult with your academic advisor if you are considering taking a heavier course load.

NOTE A
Beginning on the second year of graduate study at UCLA, all students in the doctoral program must enroll in Biostatistics 245, which involves attending the Departmental seminar series. In addition, students must also enroll in two quarters of Biostatistics 246 in their second and third year of study. Biostatistics 246 helps prepare students to give statistical and scientific presentations.

NOTE B
All registered doctoral students must also enroll in Biostatistics 409 (doctoral statistical consulting seminar: field training course) for two consecutive quarters before advancement to candidacy.

2. <u>WRITTEN EXAMINATIONS:</u>

Students must pass 2 written examinations, the PH.D. Preliminary Exam and the PH.D. Written Qualifying Exam. **Failure to secure a passing grade in at most two attempts in the PH.D. Preliminary Exam and at most two attempts in the PH.D. Written Qualifying Exam will result in the department recommending the student to the graduate division for academic disqualification.**

THE PH.D. PRELIMINARY EXAM
This exam is offered in September just before the beginning of fall classes. Students would generally take this exam in the beginning of their second year of study. Students are expected to pass the exam at a level that would predict successful completion of the Ph.D. program. The Ph.D. Preliminary Examination covers material in the following courses and is normally taken as soon as possible after having satisfactorily completing the relevant coursework:

   • Biostatistics 200 A, B and C
   • Biostatistics 202 A, B

 Students must pass the exam at a level expected of doctoral students.
 Students have a maximum of two attempts to pass the exam.

THE PH.D. WRITTEN QUALIFYING EXAM
This exam is offered in September just before the beginning of fall classes. The scope of the exam includes material from the following courses: Biostatistics 250A, B, C. Students would generally take the exam after completing necessary coursework, which typically occurs either in the beginning of their 3rd or 4th year of graduate study.

3. <u>ORAL QUALIFYING EXAM</u>

The oral qualifying exam evaluates the student's understanding of statistical theory, ability to apply the theory, and reviews the proposed dissertation topic. The student should prepare a written dissertation proposal. The 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 between 15 to 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 will present and defend 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 dissertation committee is formed in consultation with the student's advisor/dissertation chair and should consist of 4 faculty members. Special 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 visit: https://grad.ucla.edu/gasaa/library/docnomin.pdf.

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

4. <u>PH.D. DISSERTATION AND ORAL DEFENSE</u>

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.

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

The following **applies** to students who are currently in the M.S. degree or have completed the M.S. degree in Biostatistics at UCLA and wish to be considered for the Ph.D. program or have been admitted to the Ph.D. program:

- Students who enter the Ph.D. program in Biostatistics having completed the UCLA M.S. Program in Biostatistics typically begin their Ph.D. program with year 2 course work in the chart on page 23

- Students who enter the Ph.D. program in Biostatistics having completed the UCLA M.S. Program in Biostatistics and have previously taken some Biostatistics electives for their M.S. degree that also qualify as electives for the Ph.D. program may apply up to 3 of such 4-unit courses toward the Ph.D. requirement of 6 courses.

- Students who enter the Ph.D. program in Biostatistics having completed the UCLA   M. S. Program in Biostatistics and whose performance on the M.S. comprehensive exam was superior and at a level that indicated the student is prepared to proceed with more advanced doctoral coursework are not required to take the Ph.D.   preliminary exam.

- Student who entered the Ph.D. program in Biostatistics having completed the UCLA M.S. program in Biostatistics and fulfilled the requirement of one 4-unit course in Epidemiology and one 4-unit course in broad public health themes are exempt from such requirement.

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

EXAMPLE OF SEQUENCE OF CLASSES FOR THE PHD 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 suits 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 and qualifying exams.

	Fall	Winter	Spring
Year 1	Biostatistics 200A Biostatistics 216 Public Health C150/C201 or Biostatistics 203A or Mathematics 131A	Biostatistics 200B Biostatistics 202A Biostatistics 203B or Mathematics 131A	Biostatistics 200C Biostatistics 202B Epidemiology 100 Mathematics 131A
	- Ph.D. Preliminary Examination - Given at the beginning of fall term – Scope of exam: 200A, B, C, 202A, B (see pg. 21)		
Year 2	Biostatistics 250A Biostatistics 245 Biostatistics elective	Biostatistics 250B Biostatistics 245 Biostatistics elective	Biostatistics 250C Biostatistics 257 Biostatistics 245 Biostatistics 246
	- Ph.D Qualifying Examination - Given at the beginning of fall term - Scope of exam: 250A, B, C, (see pg. 21-22)		
Year 3	Biostatistics elective Biostatistics 409 Biostatistics 245 Public Health 150 or Biostatistics elective	Biostatistics elective Biostatistics 409 Biostatistics 245 Biostatistics elective	Biostatistics elective or Epidemiology 100 Biostatistics 245 Biostatistics 246

Ph.D. PROGRAM IN BIOSTATISTICS: COMPETENCIES

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.

6. ACADEMIC YEAR 2023-2024

ACADEMIC CALENDAR

The academic calendar for the current and future years is available at

https://www.registrar.ucla.edu/Calendars/Annual-Academic-Calendar

Fall Quarter 2023	
Quarter begins	Monday, September 25
Instruction begins	Thursday, September 28
Study List deadline (becomes official)	Friday, October 13
Veterans Day holiday	Friday, November 10
Thanksgiving holiday	Thursday-Friday, November 23-24
Instruction ends	Friday, December 8
Common final exams	Saturday-Sunday, December 9-10
Final examinations	Monday-Friday, December 11-15
Quarter ends	Friday, December 15
Christmas holiday	Monday-Tuesday, December 25-26
New Year's holiday	Monday-Tuesday, January 1-2, 2024
Winter campus closure	TBD
Winter Quarter 2024	
Quarter begins	Wednesday, January 3
Instruction begins	Monday, January 8
Martin Luther King, Jr. holiday	Monday, January 15
Study List deadline (becomes official)	Friday, January 19
Presidents' Day holiday	Monday, February 19
Instruction ends	Friday, March 15
Common final exams	Saturday-Sunday, March 16-17
Final examinations	Monday-Friday, March 18-22
Quarter ends	Friday, March 22
Spring Quarter 2024	
Quarter begins	Wednesday, March 27
César Chávez holiday	Friday, March 29
Instruction begins	Monday, April 1
Study List deadline (becomes official)	Friday, April 12
Memorial Day holiday	Monday, May 27
Instruction ends	Friday, June 7
Common final exams	Saturday-Sunday, June 8-9
Final examinations	Monday-Friday, June 10-14
Quarter ends	Friday, June 14
Quarter begins	Wednesday, March 27

TENTATIVE BIOSTATISTICS COURSE SCHEDULE 2023-2024

For the most updated course schedule information and classroom assignments, visit:

https://sa.ucla.edu/ro/Public/SOC

FALL 2023

		Instructor	Time/Day
Biostat 100A	Introduction to Biostatistics	M. Lee	MW 2:30-4:20pm
Biostat 120	Biostatistics in Public Health	R. Brookmeyer	TR 1-2:50pm
Biostat 200A	Methods in Biostatistics A	A. Klomhaus	TR 8-9:50am
Biostat 201A	Topics in Applied Regression	T. Belin	MWF 9-9:50am
Biostat 202C	Theory of Bayesian Statistics	D. Telesca	M 1-2:50pm W 1-1:50pm
Biostat 203A	Intro to Data Management and Statistical Computing	G. Kim	MW 1-2:30pm
Biostat 213	Introduction to Computational Methods in Biostatistics	C. Ramirez	MW 10-11:50am
Biostat 214	Finite Population Sampling	S. Banerjee	TR 1-2:50pm
Biostat 216	Mathematical Methods for Biostatistics	H. Zhou	TR 10-11:50am
Biostat 241	Spatial Modeling and Data Analysis for Health Sciences	S. Banerjee	T 10-11:50am R 10-10:50am
Biostat 245	Advanced Seminar in Biostatistics	G. Li	MW 3pm-4:50pm
Biostat 250A	Linear Statistical Models	W. Wong	W 11-12:50pm F 2-2:50pm
Biostat 402B	Biostatistical Consulting	F. Yu	R 4-4:50pm
Biostat 409	Doctoral Statistical Consulting Seminar	D. Elashoff	M 10am-11:50pm

WINTER 2024 (TENTATIVE)

Biostat 100B	Introduction to Biostatistics	M. Lee	MW 1-2:50pm
Biostat 200B	Methods in Biostatistics B	K. Crespi	MWF 11-11:50pm
Biostat 201B	Topics in Applied Regression	T. Belin	MWF 9-9:50am
Biostat 202A	Mathematical Statistics A	D. Senturk	M 1-2:50pm W 1-1:50pm
Biostat 203B	Introduction to Data Science	H. Zhou	T 3-4:50pm R 3-3:50pm
Biostat M215	Survival Analysis	G. Li	TR 10-11:50am
Biostat M234	Applied Bayesian Inference	R. Weiss	T 1-2:50pm R 1-1:50pm
Biostat M239	Mathematical and Statistical Phylogenetics	M. Suchard	MW 9-10:50am
Biostat 245	Advanced Seminar: Biostatistics	D. Senturk	MW 3-4:50pm
Biostat 250B	Linear Statistical Models	W. Wong	W 9-10:50am F 3-4:50pm
Biostat 402B	Biostatistical Consulting	F. Yu	M 3-4:50pm
Biostat 409	Doctoral Statistical Consulting Seminar	S. Darling-Hammond	T 9-10:50pm

SPRING 2024 (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 M236	Longitudinal Data	R. Weiss	M 1-2:50pm W 1-1:50pm
Biostat 244	Master's Seminar & Research Resources for Graduating Biostatistics MS Students	C. Ramirez	TR 1-2:50pm
Biostat 245	Advanced Seminar in Biostatistics	C. Ramirez	WF 3-4:50pm
Biostat 246	Doctoral Students Seminar	G. Li	M 3-4:50pm
Biostat 250C	Multivariate Biostatistics	D. Telesca	M 1-2:50pm W 1-1:50pm
Biostat 257	Computational Methods for Biostatistical Research	H. Zhou	T 1-2:50pm R 1-1:50pm
Biostat 270	Stochastic Processes	A. Holbrook	T 3-4:50pm F 10-11:50am
Biostat 285	Advanced Topics: Recent Developments	M. Guindani	TR 10-11:50am
Biostat 402A	Principles of Biostatistical Consulting	S. Darling-Hammond	F 1-2:50pm
Biostat 406	Applied Multivariate Biostatistics	D. Telesca	TR 4-5:20pm

7. ACADEMIC STANDARDS & 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:
https://grad.ucla.edu/gasaa/library/spfgs.pdf
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 non-native speakers of English new to UCLA are required to fulfill UCLA ESL requirements by taking the English as a Second Language Placement Exam (ESLPE). Based upon performance on this examination, students may be exempt from enrolling in UCLA ESL classes, or may be required to complete one or more courses in the English 33 series. Students may only take the exam twice.

If you are an admitted applicant who has not met UCLA's English language requirement for waiving the English Requirements for this examination, you must, upon arrival at UCLA, take the UCLA English as a Second Language Placement Examination (ESLPE). The ESLPE is an English diagnostic test. Depending on your results on the ESLPE, you may be required to complete English as a Second Language courses beginning in your first term at UCLA. If English courses are required, you should enroll in them right away, and you should also anticipate spending a longer period of time at the University.
Please refer to http://www.wp.ucla.edu/

FULL TIME STUDENT STATUS

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

ADVANCEMENT TO CANDIDACY

MASTER'S DEGREE
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 Roxy Naranjo once it's approved by the M.S. report advisor.

DOCTORAL DEGREE
Advancement to candidacy is also a requirement for students in the Ph.D. program. To obtain the necessary forms and policy on how to officially form your Doctoral Dissertation Committee visit:
http://www.gdnet.ucla.edu/gasaa/library/degreeinfo.htm#Doctoral

Before advancing to candidacy, doctoral students must form their doctoral dissertation committee by filling out the Nomination of Doctoral Committee form and submitting it to Roxy Naranjo. Students normally form their dissertation doctoral committee upon completion of the required coursework (or during the term completing the last required courses).

Once the doctoral committee is officially approved by 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 their 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 Humphrey Duan (@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 grade point average (3.0). The conditions when that could happen and procedures for appeal are described at https://grad.ucla.edu/gasaa/library/spfgs.pdf. 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:
https://www.deanofstudents.ucla.edu/Academic-Integrity.

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: http://www.gdnet.ucla.edu/gasaa/library/loa.htm

FILING FEE

The filing fee is used for filing of a dissertation or thesis and/or formal final examination for the doctor's or the master's degree when a candidate has completed all degree requirements. Graduate students (who meet the criteria below) 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. Effective fall 2018, graduate students who are approved to use a Filing Fee will have the entire academic term to complete their degree requirements. 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 Status and Filing Fee Eligibility Flow Chart 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: https://grad.ucla.edu/academics/graduate-study/filing-fee-application/.

Students may only pay the filing fee one time.

8.   LIFE IN THE DEPARTMENT OF BIOSTATISTICS

BIOSTATISTICS STUDENT AFFAIRS OFFICE

The Student Affairs Officer 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 question 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 Student Affairs Officer (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 Student Affairs Officer 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 the both 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 (51-254A CHS) 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 *2-hour* check out.
- All other books should be checked out using the following procedure: find pocket inside book; fill out book card and file it in box located in the library by author's name.

For questions, please see Humphrey Duan, 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 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 in the lower level of the Fielding School of Public Health.

A1-228 CHS is available to all masters 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 which 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 our emails 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 sent by email about the upcoming seminar for the week.

BIOSTATISTICS SOCIAL EVENTS

The Department has several social events each year. We very much want you to come to these events - they let all of us get to know each other in a less formal atmosphere.

Below is a list of what the department normally offers:

- Fall term Welcome-to-UCLA potluck at Sunset Canyon Recreation Center
- Winter potluck Holiday Party in December which everyone brings food to share and is usually in the Massey Biostatistics Library.
- Monthly pizza lunch for students and faculty. Pizza day is normally the second Monday of every month and held in the Biostatistics Library.

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

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 (Graduate Student Researcher) and special reader 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 TOP test.

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

BLUE PETITION

A blue petition is a form submitted to explain a student's need or desire to be exempted from any rule or regulation of the University. It is the only way to obtain formal approval from the department, the School, the Registrar, or whoever has authority over the particular request. For example, a request to substitute a required course for another, requires a blue petition. The petition will need to be signed by your advisor and Department Chair. The petition is available on Slack (https://ucla-biostat.slack.com/archives/C01B4JFJRAB/p1610071274001800). Blue petitions should be filed prior to any variation from stated policy, not after, discuss with academic advisor and secure their signature on the form and sent to Roxy via email or deliver to her office. Check with Roxy Naranjo to confirm you are following the correct procedures.

9. LIFE IN AND AROUND UCLA

STUDENT HEALTH SERVICES

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 special 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 comprised of highly qualified doctors, nurse practitioners, and nurses.
https://www.studenthealth.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

COUNSELING CENTER- COUNSELING & PSYCHOLOGICAL SERVICES (CAPS)

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.

http://www.counseling.ucla.edu/

CENTER FOR ACCESSIBLE EDUCATION (CAE)

The UCLA Center for Accessible Education (CAE) facilitates academic accommodations for regularly enrolled, matriculating students with disabilities. The 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 accommodations 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: https://www.cae.ucla.edu/.

SAFETY

The Evening Van Service provides a safe means of transportation around campus during the evening hours. The vans provide transportation between campus buildings, on-campus housing and nearby residential areas. The service is free of charge and available to all UCLA students, staff, faculty and visitors. For added safety, the vans are driven by Community Service Officers (CSOs) who carry two-way radios, providing a direct link to the UCLA Police Department. https://transportation.ucla.edu/getting-around-campus/evening-van-service

PUBLIC TRANSPORTATION

Refer to the website to obtain more information regarding transportation in and   around UCLA. https://main.transportation.ucla.edu/

PARKING

Information on how to apply for a parking permit, van pool, ride share, 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).

10. 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 http://www.registrar.ucla.edu

200A. Methods in Biostatistics A, Units: 4,
      Preparation: at least one year of calculus

200B. Methods in Biostatistics B, Units: 4,
      Preparation: Linear Algebra. Pre-requisite Biostat 200A.

200C. Methods in Biostatistics C, Units: 4,
      Pre-requisites: Previous course in linear algebra; Biostatistics 200A, and 200B

201A. Topics in Applied Regression, Units: 4,
      Pre-requisites: Biostat 100A and 100B, or Biostat 200A and 200B

201B. Topics in Applied Regression, Units: 4,
      Pre-requisite: Biostat 201A.

202A. Mathematical Statistics A, Units: 4,

202B. Mathematical Statistics B, Units: 4,
      Pre-requisite: Biostat 202A.

202C. Theory of Bayesian Statistics, Units: 4,
      Pre-requisite: 200A, 200B, 202A, 202B, or equivalent, or consent of instructor.

203A. Introduction to Data Management and Statistical Computing, Units: 4

203B. Introduction to Data Science, Units: 4,
      Pre-requisite: 203A

M208. Introduction to Demographic Methods, Units: 4,
      Preparation: one introductory statistics course.

M210. Statistical Methods for Categorical Data, Units: 4,
      Pre-requisites: Biostat 100B or Biostat 200B or, Statistics 100B.

212. Distribution Free Methods, Units: 4,
      Pre-requisite: Biostat 200B or Statistics 100B.

213. Introduction to Computational Methods in Biostatistics, Units: 4,
    Pre-requisites: Biostat 200A, or Statistics 100B.

214. Finite Population Sampling, Units: 4,
    Pre-requisites: Biostat 200A, 200B, 202B.

M215. Survival Analysis, Units: 4,
    Pre-requisite: Biostat 202B or Statistics 100C.

216. Mathematical Methods for Biostatistics, Units: 4,
    Pre-requisite: Mathematics 31A, 31B, 33A. All incoming MS and Ph.D. students
    are required to take this course.

219. Special Topics: Supplemental Topics, Units: 4,
    Pre-requisite: course 202B.

230. Statistical Graphics, Units: 4,
    Pre-requisite: Biostat 200A (may be taken concurrently).

231. Statistical Power and Sample Size Methods for Health Research, Units: 4,
    Pre-requisites: Biostat 200A, 200B.

M232. Statistical Analysis of Incomplete Data, Units: 4,
    Pre-requisites: Biostat 200C, 202B or equivalent.

233. Statistical Issues in Global Health, Units: 4,
    Pre-requisites: Biostat 200C;   Recommended M215.

M234. Applied Bayesian Inference, Units: 4,
    Pre-requisite: Biostat 200B or another substantial regression course.

M235. Causal Inference, Units: 4,
    Pre-requisite: 200C, 202B or equivalent.

M236. Longitudinal Data, Units: 4,
    Pre-requisite: Biostat 200B or another substantial regression course.

M237. Applied Genetic Modeling, Units: 4,
    Pre-requisite: 200B, 202B (may be taken concurrently) or equivalent course or
    consent of instructor.

M238. Methodology of Clinical Trials, Units: 4,
    Pre-requisite: Biostat 200B.

M239. Mathematical and Statistical Phylogenetics, Units: 4

241. Spatial Modeling and Data Analysis for Health Sciences, Units: 4,
     Pre-requisites: Biostat 200A, 200B, 202A, 202B.

244. Master's Seminar and Research Resources for Graduating Biostatistics M.S.
     Students, Units: 4

245. Advanced Seminar: Biostatistics, Units: 2,
     Requisites: Biostat 200C, 202B

246. Doctoral Students Seminar, Units: 2,
     Requisites: Biostat 200C, 202B.

250A. Linear Statistical Models, Units: 4,
     Recommended preparation: statistical theory and linear algebra.

250B. Linear Statistical Models, Units: 4,
     Pre-requisites: Biostat 200A, 200B, 200C, 250A.

250C. Multivariate Biostatistics, Units: 4,
     Pre-requisites: Biostat 250A, 250B. Recommended requisites: Biostat 255A,
     255B.

255A. Advanced Probability and Statistics, Units: 4,
     Pre-requisites: Biostat 202A or equivalent.

255B. Advanced Probability and Statistics, Units: 4,
     Pre-requisites: Biostat 255A or consent of instructor, Mathematics 131A.

257. Statistical Computing, Units: 4,
     Requisites: Math 115A and Stat 100C or Biostat 250A.

270. Stochastic Processes, Units: 4,
     Preparation: upper division mathematics (including statistics and probability).

M272. Theoretical Genetic Modeling, Units: 4,
     Pre-requisites: Mathematics 115A, 131A, Statistics 100B.

273. Classification and Regression Trees (CART) and Other Algorithms, Units: 4,
     Pre-requisite: Biostat 200C.

275. Advanced Survival Analysis, Units: 4,
     Pre-requisites: Biostat 250A, 255A.

276. Inferential Techniques that Use Simulation, Units: 4,
     Pre-requisites: Statistics 200A, 200B. Recommended: Biostat 213.

277. Robustness and Modern Nonparametrics, Units: 4,
   Pre-requisite: Statistics 200A.

279. Optimal Design Theory and Application, Units: 4,
   Preparation: Basic programming skills. Pre-requisites: Statistics 200B.

M280. Statistical Computing, Units: 4,
   Pre-requisites: Mathematics 115A, Statistics 100C.

285. Advanced Topics: Recent Developments, Units: 4

296. Seminar: Research Topics in Biostatistics Units: 1 to 4

375. Teaching Apprentice Practicum, Units: 1 to 4

400. Field Studies in Biostatistics, Units: 4

402A. Principles of Biostatistical Consulting, Units: 2,
   Pre-requisite: Biostat 100B or Biostat 200B.

402B. Biostatistical Consulting, Units: 4,
   Pre-requisite: Biostat 402A.

M403B. Computer Management and Analysis of Health Data Using SAS, Units: 4,
   Pre-requisites: courses 100A, 100B (100B may be taken concurrently.)

406. Applied Multivariate Biostatistics, Units: 4,
   Preparation: At least two upper division research courses. Pre-requisite: Biostat
   100B.

409. Doctoral Statistical Consulting Seminar, Units: 2

410. Statistical Methods in Clinical Trials, Units: 4,
   Pre-requisites: Biostat 100A, 100B.

411. Analysis of Correlated Data, Units: 4,
   Pre-requisite: Biostat 200A.

413. Introduction to Pharmaceutical Statistics, Units: 4,
   Pre-requisites: Biostat 100A, 100B.

414. Principles of Sampling, Units: 4,
   Pre-requisites: Biostat 100B, Epidemiology 100.

495. Teacher Preparation in Biostatistics, Units: 2

595. Effective Integration of Biostatistical Concepts in Public Health Research, Units: 4, Pre-requisites:100A, 100B, 400, 402A.

596. Directed Individual Study or Research, Units: 2 to 8

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations, Units: 2 to 12

599. Doctoral Dissertation Research, Units: 2 to 12

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 blue petition). 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)