



Biostatistics

MS, MPH, PhD Degree Programs

Division of Biostatistics

2017-2018

STUDENT GUIDEBOOK

SCHOOL OF
PUBLIC HEALTH

UNIVERSITY OF MINNESOTA

Welcome to the University of Minnesota School of Public Health!

All students are responsible for knowing the rules and policies that govern their academic program. To this end, we are providing you with this guidebook which covers your specific academic program requirements. Please refer to it often.

Many Graduate School processes are in transition. Please stay in touch with your Program Coordinator as some paper processes will convert to electronic processes.

In addition, you are responsible for knowing University of Minnesota and School of Public Health policies and procedures that pertain to all students. Links to these policies and procedures can be found by clicking on the “Current Students” link at <http://www.sph.umn.edu/current/resources/>.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

This publication can be made available in alternative formats for people with disabilities. Direct requests to the Student Services Center, School of Public Health, MMC 819 Mayo, 420 Delaware Street SE, Minneapolis, MN 55455; 612-626-3500 or 800-774-8636.

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UNIVERSITY OF MINNESOTA CALENDAR 2017-2018

The official University Calendar can be found at onestop.umn.edu.

FALL SEMESTER 2017

August	23,24,25	Equivalency Exams
	30	SPH New Student Orientation
September	1	New PhD Student Reception
	4	Labor Day holiday – University closed
	5	Classes begin
November	14	Registration for Spring Semester 2017 begins
	23-24	Thanksgiving holiday – University closed
December	13	Last day of instruction
	15-16,18-21	Final examinations
	21	End of Fall semester
	25-26	University Closed
	28	Grades due

SPRING SEMESTER 2018

January	TBA	Equivalency Exams
	15	Martin Luther King holiday – University closed
	16	Classes begin
March	12-16	Spring break – no classes
April	10	Registration for Summer term 2018 begins
May	4	Last day of instruction
	7-12	Final examinations
	12	End of Spring Semester
	15	Grades due
	21	May Intersession begins

1. THE SCHOOL OF PUBLIC HEALTH

1.1 ABOUT THE SCHOOL

The mission of the School of Public Health is to preserve and enhance the health of the public through education, research, and service programs designed to discover and transmit new knowledge aimed at the prevention of disease and disability, the improvement of health, and the planning, analysis, management, evaluation, and improvement of systems for the delivery of health services.

Our school was founded in 1944, although public health courses have been offered at the University of Minnesota since its inception. We consistently rank among the top schools of public health in the country.

Through our education, research, and community outreach, we focus on improving the health of populations. We emphasize prevention of illness and injury, and we look at health through a multi-faceted prism that includes physiology, the environment, communities, economics, and public policy.

This interdisciplinary approach allows us to collaborate with many other schools throughout the University, including the College of Veterinary Medicine, the School of Dentistry, the College of Pharmacy, the Medical School, the Humphrey School of Public Affairs, the Carlson School of Management, College of Biological Sciences, School of Social Work, School of Statistics, School of Nursing, and Law School. By combining our expertise, we can explore innovative, far-reaching ways of maintaining and improving the health of the people in Minnesota and throughout the country and world.

Notable Accomplishments

- Invented K Rations.
- Improved the recovery of World War II survivors through the Minnesota Starvation Study (1944).
- Established the connection between diet and heart disease in the Seven Countries Study (1967).
- Established the first U.S. Ph.D. program in epidemiology (1958).
- Conducts one of the largest HIV/AIDS studies in the world, involving 120 countries.
- Trains the majority of the public health workforce in the Upper Midwest.
- Was the first school of public health in the country to require a course in ethics.

Academic Health Center (AHC)

The School of Public Health is one of the six schools and colleges that make up the Academic Health Center at the University of Minnesota. The others include the disciplines of medicine, dentistry, nursing, pharmacy, and veterinary medicine. Strong interdisciplinary centers and programs in bioethics, cancer, genomics, infectious disease, drug design, food safety, and spirituality and healing augment the broad range of professional health education and research efforts.

1.2 SCHOOL OF PUBLIC HEALTH STUDENT SERVICES CENTER

Office Hours

Monday – Friday, 8:00 AM - 4:30 PM

Location

Mayo Memorial Building, Room A395

Telephone

612.626.3500 or 800.774.8636

Fax

612.624.4498

Email

sph-ask@umn.edu

Mailing Address

Student Services Center
School of Public Health
MMC 819, Rm A395 Mayo Bldg
420 Delaware Street SE
Minneapolis, MN 55455-0381

School of Public Health Student Services Center

The Student Services Center is a school-wide office that assists students with all phases of their academic journey. The SSC staff works closely with the program coordinators to create a set of school-wide and program-specific services. You will be interacting with us directly or indirectly throughout your education here.

The Student Services Center is dedicated to serving a diverse community of future and current SPH students by enhancing the student experience, supporting the achievement of educational and career goals, and empowering future public health leaders.

We coordinate many functions including:

- Career Counseling
- Applications
- Orientation
- Class Scheduling
- Student Tracking
- SPH Scholarships
- Registration
- Graduation Clearance
- Commencement

School of Public Health Student Services Center Staff

TITLE	NAME	EMAIL	PHONE
Associate Dean for Learning Systems and Student Affairs	Dr. Kristin Anderson	ander116@umn.edu	
STUDENT SERVICES			
Senior Director of Student Services	Tim Kamenar	kamen001@umn.edu	(612) 626-5005
Registrar and Director of Academic and Student Affairs	Carol Francis	franc004@umn.edu	(612) 624-6952
Assistant to the Registrar	Mercedes Taneja	estra021@umn.edu	
Student Services Office Manager			(612) 624-7660
CAREER SERVICES			
Director of Career and Professional Development Center	Vic Massaglia	victorm@umn.edu	(612) 626-5443
Associate Director of Career and Professional Development Center	Darren Kaltved	dkaltved@umn.edu	(612) 626-4448
Assistant Director of Career & Professional Development Center	Megan Lafontaine Gallert	meganlaf@umn.edu	(612) 301-9502
RECRUITMENT, ENGAGEMENT, DIVERSITY AND INCLUSION			
Recruitment and Enrollment Manager	Jenna Egan	egan0056@umn.edu	(612) 624-0601
Coordinator of Diversity, Equity, and Inclusion	Lauren Eldridge	leldridg@umn.edu	(612) 624-9970
Coordinator for Student Recruitment and Engagement	Crystal Esparza	espa0018@umn.edu	(612) 624-6915
Coordinator for Applications and Admissions	Jennifer Arntzen	arntz007@umn.edu	(612) 624-1991

Career Services

The *Career and Professional Development Center* offers a variety of services and resources to assist you in your efforts to locate and apply for professional positions – from field experiences (internships) and residencies to fellowships and full-time positions. Our Center believes that every individual has unique potential and should have the opportunity to pursue a meaningful and fulfilling career. Our goal is to facilitate the career and professional development process with you to ensure you have the confidence in conducting a competitive job search and help you maximize your career potential. We do so, by offering one-on-one

career coaching, programming, field experience advising and directly working with employers. As a student and later as an alumnus/alumna, you are able to take advantage of the following resources to help you achieve your career goals.

Career and Professional Development Website

The Career and Professional Development website at www.sph.umn.edu/careers/ has many links to help you start your new career, including:

- **One-on-one Career Coaching:** You may schedule individual appointments with one of our award-winning, evidence-based career coaches (Vic Massaglia and Darren Kaltved) to discuss any career or professional development topics, from creating a top-notch resume to ideas for field experiences, interviewing, and presentation skills. Appointments are also available via Video or Phone. To schedule an appointment, please visit sphcareers.appointments.umn.edu or email sphcareers@umn.edu.
- **Jobs / Internships:** Our online job posting system includes listings for internships/field experiences, graduate assistantships and fellowships, volunteer, part-time and full-time career opportunities (www.ahc.umn.edu/sphjobs/).
- **Field Experiences:** Apply your public health coursework, knowledge and skills in a real-world setting through your field experience. All Master's in Public Health (MPH) students must complete a field experience as part of degree program requirements. Field experiences can be paid or unpaid. For more information on resources, past opportunities and requirements please visit: www.sph.umn.edu/careers/fe/. In addition, individual appointments for field experience questions can be scheduled with the Field Experience Coordinator at: sphfield.appointments.umn.edu.
- **Career Resources:** General career-related links, guides and tip sheets on a variety of job-search related topics (www.sph.umn.edu/careers/students/)
- **Career Connect 2018:** Through personal interaction with a variety of organizations, School of Public Health (SPH) students will network with organizational representatives and will have the opportunity to effectively communicate their unique experiences, interests, strengths and skills. Students will also learn more about the many career options in public health. Regardless of where you are at in your program, this is a great opportunity to meet face-to-face with public health organizations. In turn, organizations will meet talented students and potential candidates for employment opportunities, and have the opportunity to further develop collaborations across SPH

1.3 MENTOR PROGRAM

Our mentor program connects public health students to public health professionals to help with career and professional development. Mentoring relationships can benefit both mentors and mentees. For mentees, the program can have a key impact on future career choices. For mentors, helping the next generation of public health leaders can be rewarding and impactful.

The School of Public Health boasts the largest mentor program of any school of public health, serving approximately 500 students and mentors with special events and helpful resources for mentor pairs. We work to provide students with diverse professional experiences and recognize the role that mentors have in training future public health leaders. These relationships have proven to be enriching and longstanding.

For more information, visit sph.umn.edu/current/mentor/.

1.4 SPH STUDENT SPHERE

Make use of the SPH Student SPHere (Commons) to relax or study with your student colleagues. All students actively registered in an SPH degree program have access to the SPH Student SPHere (Mayo A150) via their U-Card. The Student Commons has the following amenities:

- Locker room – Free lockers are assigned in the Student Services Center (Mayo A395). Students need to renew their locker each year and provide their own lock.
- Kitchen area with tables, chairs, microwaves, refrigerators, sink, and a telephone for free local calls.
- Lounge area with couches, chairs, and wireless internet.
- Study room with tables, chairs, computers (with internet connectivity, Microsoft Office, SAS and STATA software) and a printer.

Please work together to ensure that the SPHere is a comfortable and safe place.

- Keep all areas of the SPHere clean in consideration of others.
- Please protect the security of access. Do not allow anyone to enter behind you that you do not know to be a SPH student. Never prop the door open for any reason. The student commons is for SPH students only.
- If you are aware of a breach of security or if you see something in the commons that needs repair, please report it to the SSC (A395 Mayo) as soon as possible.

- Avoid being alone in the commons during the evening or early morning.
- If you believe you are in danger or see improper activity in progress, call 9-1-1.

Printing in the SPHere

The School of Public Health (SPH) provides \$100 worth of printing (1,000 pages) for each Fall and Spring semesters on your U Card. **This value can ONLY to be used in the SPHere computer lab (Mayo A-151) and is not valid in any other campus computer lab, including libraries.**

When you swipe your card at a print release station, UniPrint will show a balance on the screen. This balance is a combination of the print value given to you by SPH and your Gopher GOLD balance. In order to determine how much print value you have left, you need to subtract your Gopher GOLD balance from the balance shown on screen. Once the \$100 SPH Print Value is exhausted, printing costs will be deducted from your Gopher GOLD account. To view your current balance and transaction history or to add value to your Gopher GOLD account online, please visit www.gophergold.umn.edu. If you experience any printing issues or need to request a refund, please contact the lab attendant or call the SPH Student Services Center at (612) 626-3500.

1.5 COMPLAINTS AND GRIEVANCES

The SPH seeks to be aware of and responsive to student issues and complaints. There are numerous ways for you to channel your academic and student life concerns:

- Provide comments on the yearly student survey (in March).
- Meet with your advisor and/or program coordinator.
- Raise the issue with your program director or director of graduate studies, either individually or in a meeting set up for this kind of feedback.

The SPH takes all student concerns seriously and we welcome your input in any of these ways. If the matter is not handled satisfactorily by any of these methods, or if the issue is particularly widespread or serious, please make an appointment with Dr. Kristin Anderson, Associate Dean for Learning Systems and Student Affairs, at ander116@umn.edu.

The University provides resources as well. Report incidents of bias, discrimination, or harassment to the University Office of Equal Opportunity and Affirmative Action at www.eoaffact.umn.edu. For student issues that are not resolved through SPH channels or for which you seek external support, the Student Conflict Resolution Center will assist in resolving campus-based problems or concerns www.sos.umn.edu.

1.6 FIELD EXPERIENCE LEARNING AGREEMENT

All students pursuing a required field experience or summer residency must complete an online learning agreement prior to beginning the experience. The online form provides a streamlined process that is comprehensive for you, your preceptors, your faculty advisor and your program coordinator. Please refer to the current student website for this and other resources related to the field experience, sph.umn.edu/careers/fe/. Students exploring international field experience opportunities need to begin the process six to eight weeks before departure, and need to be aware of requirements specific to international travel.

More detailed information about the field experience can be found in the program portion of the guidebook.

1.7 MINORS AND INTERDISCIPLINARY CONCENTRATION AREAS

Minors

SPH students pursuing an MHA, MPH, MS, or PhD are eligible to declare a minor in other areas. For a listing of graduate level minors click on <https://onestop2.umn.edu/pcas/viewCatalogSearchForm.do>. Contact your coordinator for how to add a minor.

Interdisciplinary Concentration Areas

SPH Master of Public Health students have the option to add an interdisciplinary concentration area, Public Health Policy (PHPIC), to their program of study. For more information and link to the required forms go to www.sph.umn.edu/academics/ic/.

1.8 COMMUNITY ENGAGEMENT AGREEMENT

Many students in the School of Public Health volunteer in the community. Liability insurance is available through the University provided that the student registers for PUBH 0020 (a zero credit class), and has the approval of their academic faculty advisor. Registration for PubH 0020 will be officially documented on the student's transcript; however, the zero credit course has no tuition,

no fees, no credits, and no grades. It is important to understand that a zero credit registration for a community engagement activity is not a substitute for a required course or field experience.

Prior to registration, students are required to provide information about the experience by completing the Community Engagement Agreement available at www.ahc.umn.edu/sphcommunity. The agreement is complete once it has been approved by the student's advisor and the Registrar and Director of Academic and Student Affairs.

To complete the Student Engagement Agreement a student must provide the following information:

- Name of the organization
- Address
- Organization phone number
- Supervisor within the organization
- Description of the activity
- Description of how this activity relates to their development as a public health professional
- Semester and date of experience
- Electronic signature of academic advisor

When the agreement is approved, the student will be contacted by email and provided with a registration permission number.

1.9 ONLINE LEARNING AND E-LEARNING RESOURCES

Students can access their online courses, as well as support sites for hybrid and face-to-face courses at myu.umn.edu. All students taking SPH courses are welcome to enroll in the SPH E-Learning Resources course site at z.umn.edu/sphelearningresources. You will have access to a variety of resources to support you in navigating University resources, such as the Libraries and Writing Center, and be able to refresh the skills you need to succeed in SPH courses. You must have a university ID in order to access Moodle or Canvas (the two learning management systems in use at the University).

Students in online courses will receive a welcome email approximately a week before the semester begins, which will detail when you can access the course sites. If you have questions, please contact decsp@umn.edu.

1.10 COURSE EVALUATIONS AND YEARLY STUDENT SURVEY

Course Evaluations

Students provide very important input into the continued development of the School of Public Health's teaching program. Students will be asked to complete evaluations for all SPH courses. Evaluations are done online at the end of each term.

SPH Student Engagement Survey

Students also are strongly encouraged to evaluate and comment on the school and its programs through our annual SPH Student Engagement Survey. The survey covers many aspects of student experiences including field placements, career services, financing, and overall School service.

Career Survey

Recent graduates are encouraged to complete the Career Survey. The survey captures important employment information, compensation norms and contact information.

1.11 THE ROLES OF YOUR ADVISING TEAM

The School of Public Health provides advising that promotes collaboration among students, staff and faculty to enhance students' academic and professional development in the field of public health. The School's goal is to provide educational and experiential excellence that prepares students for successful careers improving the health of populations.

Defining Advising

The School of Public Health is committed to creating and sustaining high quality advising in the following four areas:

1. **Administrative Advising:** advising on course planning and scheduling, policies, procedures and benchmarks of the degree program/major, SPH, and the University. Your program coordinator is your first point of contact for these questions.
2. **Academic Advising:** general guidance on topics related to program/major including, but not limited to, program focus (may include identifying appropriate course work options), project selection and career planning. Students find their faculty advisors, coordinators and career services staff helpful in answering these questions.

3. **Field Experience/Internship/Practicum Advising:** specific and targeted advising for field experience/internship/practicum development, placement and completion. Your faculty advisor can assist you as you select the type of field experience that would best match your goals. Career Services staff can help you to learn how to network with other students and alums to explore possible field experiences sites.
4. **Masters Project/Thesis/Plan A&B/Dissertation Advising:** specific and targeted direction on a master's project or a PhD dissertation including, but not limited to development, completion and in some cases publication. Your faculty advisor will assist you in developing a direction for your project or dissertation.

Advising Expectations for Students

SPH students are expected to:

Regularly read and respond to University email (ideally once per day); email is the official mode of communication at the University of Minnesota.

- Review program objectives and educational documents at least once per semester, (i.e. Student Guidebook, etc.), or when directed by program coordinator or program director/DGS; students are responsible for knowing the requirements of the degree program.
- Actively contribute to a welcoming and supportive SPH climate.
- Initiate meetings with advisor(s) at least once per semester; regularly communicate with faculty advisor(s) and/or program coordinator about program progress.
- Respond to inquiries from faculty or staff in a timely manner (ideally within 5 – 7 business days).
- Behave in a professional and courteous manner; fulfill educational and advising commitments, such as appointments, project deadlines, etc.

1.12 EXPECTATIONS FOR CLASS PARTICIPATION

“Good discussion involves people trying to build on, and synthesize comments from others, and on showing appreciation for others’ contributions. It also involves inviting others to say more about what they are thinking.”

- Dr. Stephen Brookfield of St. Thomas University, Minneapolis, MN

Employers expect their employees to work effectively on teams and this has led to a competency required for an MPH degree: “Perform effectively on interprofessional teams.” Thus, a portion of your grade in class may be based on quality participation in group-based activities. We are providing the following examples* to let you know what we expect for all communications in the class. These apply to in-person or online discussions and to interactions between students and between students and members of the teaching team.

- Imagine your interactions are with colleagues in a workplace.
- Show you are interested in what another person wrote or said.
- Encourage another person to elaborate on something they have already said.
- Provide a resource (a reading, web link, video) not covered in the syllabus that adds new information/perspectives to our learning.
- Summarize conversations so far and/or suggest new directions and questions to be explored in future.
- Summarize several people's contributions and reflects a recurring theme in the discussion.
- Comment that you found another person's ideas interesting or useful; be specific as to why.
- Paraphrase, at least partly, a point someone has already made.
- Seek assistance from others in understanding course content.
- Offer your explanations or solutions to others seeking help in understanding course content.
- Be succinct; avoid extraneous information.
- Address the point of the discussion; stay on topic.
- Provide constructive criticism where feedback or a critique is required.
- Avoid sarcasm, particularly in an online environment where it can create confusion.
- Avoid vitriol, this can create a hostile environment and does not add information.
- Keep your communication professional and refrain from using rude or offensive language.

*We thank Dr. Brookfield of St. Thomas University, Minneapolis, for some of these tips.

1.13 COMMENCEMENT ELIGIBILITY

Students enrolled in MPH, MHA or MS programs are eligible to participate in the May Commencement ceremony if they are on-track to complete course credit requirements and the culminating experience by the end of the spring or summer semester, or have completed the necessary course credit requirements and culminating experience the previous summer or fall semester.

Exceptions may be granted on an individual basis per review by the program coordinator and program director. To seek an exception, contact your program coordinator.

2. THE UNIVERSITY OF MINNESOTA

2.1 MISSION

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world. The University's mission, carried out on multiple campuses and throughout the state, is threefold:

1. Research and Discovery

Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.

2. Teaching and Learning

Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

3. Outreach and Public Service

Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism, and other forms of prejudice and intolerance; that assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers individuals within its community.

2.2 U OF M BASICS

University Identification Numbers and Accounts

umn.edu/initiate

All students and employees at the University of Minnesota are issued two unique identifiers. One is a seven digit student ID number which is sent to students in their acceptance letter. The other is an Internet ID (sometimes referred to as your "X.500"). Your U of M internet ID is the key to online services such as your University email account, Google apps, registration, library access, tuition, billing statements, and more.

Your ID number and Internet ID stay the same on all coordinate campuses and through any role changes (student to staff, staff to student, faculty to staff, etc) and they will never be reassigned to another person. Each student attending the University of Minnesota must set-up a student internet/email account by going to www.umn.edu/initiate or by calling the Technology Help Line at 612.301.4357 (1-HELP).

Email

mail.umn.edu

The University provides students with an email account upon the student's matriculation to the institution. Your University email address is: [your Internet ID]@umn.edu. This account is free of charge and currently is active as long as the student remains active. The Office of Information Technology posts information on their website about "end of life" account policies. Please see it.umn.edu/google-account-end-life-policies for details about access after graduation or other times you may be an inactive student.

A University assigned student email account is the University's official means of communication with all students.

Students are responsible for all information sent to them via their University assigned email account. Course lists, immunizations, billing statements, financial aid updates, and other important information will be sent via the U of M student email address.

The School of Public Health relies heavily on email notices to students, staff, and faculty. To keep current on upcoming events, job announcements, new course announcements, scholarships, internships, the SPH newsletter, or good opportunities, etc., students should check their email regularly.

If a student chooses to forward the provided University email account, the student is responsible for all information, including attachments, sent to any other email account. Because of this, it is strongly recommended that students use their U of M email account and do not transfer it to a personal email account.

One Stop

onestop.umn.edu

One Stop Student Services is your go-to resource for how things work at the central University. One Stop refers to both a website and the campus unit that manages it. It falls under the umbrella of Academic Support Resources (ASR), which supports many functions for the University of Minnesota system campuses and Twin Cities Graduate School and Professional Schools. ASR also includes the Office of the Registrar, the Office of Student Finance, Office of Classroom Management, ASR- IT, and Continuity and Compliance.

The One Stop website is your source for general information about registration, financial aid, tuition and billing, grades and transcripts, dates and deadlines, financial wellness, veteran's benefits and many other University resources.

One Stop counselors are available to help you in-person at any of their three service centers: on the East Bank in Bruininks Hall, in the West Bank Skyway, or on the St. Paul campus in Coffey Hall. They provide walk-in service to students, no appointments necessary! You can also get your questions answered by calling or e-mailing One Stop. One Stop Counselors are also certified financial managers and are available for confidential, one-on-one financial wellness appointments that cover a range of topics from budgeting, spending plans, credit and much more - call or email One Stop to learn more about this FREE service.

MyU

myu.umn.edu

While you will contact One Stop or visit the One Stop website seek out information, you will use the MyU website to complete your University business. MyU is the official University of Minnesota web portal, personalized for you. It's where you'll register for classes, manage financial aid and billing, maintain your personal info and much more.

U Card

www.umn.edu/ucard

Your U Card is your official University of Minnesota ID. Your U Card can give you access to campus buildings and different accounts based on your role/status at the University. Your first U Card is free and can be obtained at the U Card Office. Bring your driver's license, state ID, or passport and be prepared to have your picture taken.

Accounts on the U Card

- Meal Plan
- Student Account
- Gopher GOLD Account
- FlexDine Account
- Library Account
- TCF U Card Checking Account (Optional Account)

Additional services with your U Card

- Parking and Transportation Services (Bus & Metro Pass) - Purchase pass after you get your U Card
- Discounts
- Department/College Printing
- Attendance verification card

Building Access with U Card

- Residential Halls
- Recreation and Wellness Center
- Secured Buildings

2.3 CAMPUS SERVICES

Parking and Transportation

www.umn.edu/pts/

The University's Parking and Transportation website has a wealth of information concerning getting to and around campus. Parking is extremely limited on campus and we encourage students to bus, bike, or walk if possible.

- **Campus Shuttle Buses**
Campus shuttle buses run at no charge between the East and West Bank and St. Paul campuses with varying routes and times. Current schedule information is posted on the above listed website as well as various locations throughout the Twin Cities campus.
- **Metro Transit and the U Pass**
Take advantage of the deeply discounted Metro Transit bus pass. U-Pass is the ultimate transit pass that provides unlimited rides 24 hours a day. It is valid on all regular bus and light-rail train routes, as well as express, local, limited-stop, or Downtown Zone routes. It may not, however, be used on some special event services. Information can be found at www.pts.umn.edu/bus/upass.

- **Parking**

Contract parking for students is sold through a lottery system each semester. Locations may vary but include spaces on the East Bank, West Bank, and St. Paul campuses. Hourly parking is available in several University public facilities. Parking rates vary depending on proximity to campus and the facility type. Visit the Parking and Transportation website, www1.umn.edu/pts/, or call 612.626.PARK (7275) for more information.

The Motorist Assistance Program offers free services (unlocking vehicles, jump-starts, changing flat tires, and referral to a service station) to all customers parked in U parking facilities. Hours are Monday through Thursday from 7 a.m. to midnight, Friday from 7 a.m. to 10 p.m. (Service is not available on weekends or official University holidays). Call 612.626.PARK for motorist assistance or any other questions.

Disability parking is available in many parking facilities and metered areas. Use of these designated spaces requires a state-issued permit or license plate. For additional information, call the State of Minnesota at 651.296.6911 or Disability Services at 612.624.4037.

Housing

www.housing.umn.edu

The University's Office of Housing & Residential Life is the best resource for finding housing on or near campus.

Maps

campusmaps.umn.edu

Find the way to any University building.

Digital Signage

The School of Public Health had three different digital signs that provide information specific to the public health students. These can be found on the 3rd floor of the Mayo building – right near the Dean's office Mayo A302, the student SPHere Mayo A150, and the 3rd floor (Lobby level) of the WBOB building.

Dining

www.dining.umn.edu

University Dining Services offers a wide variety of dining experiences throughout the Twin Cities campus.

2.4 HEALTH AND WELL BEING

University-sponsored Student Health Benefit Plan

shb.umn.edu

The University requires all students to have health care coverage to ensure they have access to medical care and can maintain good health, which is essential for academic success. This requirement is University-wide and not specific to the School of Public Health.

The Office of Student Health Benefits (OSHB), a unit of the Office for Student Affairs, administers health, dental and other benefits and enrollment for all eligible University students, residents, fellows, and interns.

All students who are 1) admitted to a degree program*, and 2) registered for six or more credits per semester (or three or more credits during summer term) that count towards the automatic assessment of the Student Services Fee, are required by the University of Minnesota to have health plan coverage. *Students who meet both of these criteria are automatically enrolled in the University-sponsored Student Health Benefit Plan.* The Student Health Benefit Plan (SHBP) is a cost-effective, comprehensive health plan designed to meet the unique needs of students. Students may choose to waive the University-sponsored Student Health Benefit Plan by providing proof of enrollment in an alternative Eligible Health Plan.

**Non-degree seeking, certificate-seeking, and distance learning students are not eligible to enroll in the University-sponsored Student Health Benefit Plan. Please contact the Office of Student Health Benefits to determine exact eligibility status.*

The University also requires all international students and their dependents to purchase the University-sponsored Student Health Benefit Plan unless they are eligible for a waiver. International scholars visiting the University for more than 31 days are also required to enroll in the University-sponsored Student Health Benefit Plan. Scholars who will be at the University for 31 days or less may choose not to enroll in the University-sponsored Student Health Benefit Plan, but are required to carry their own health plan coverage for the duration of their visit to the University (must meet J-1 U.S. Federal regulation requirements).

Long Term Care Disability Insurance Fee

shb.umn.edu/students-and-scholars/ahc-disability

Academic Health Center students (which includes the School of Public Health), enrolled in a qualifying AHC program, will be automatically covered under a group Long Term Disability plan while a student. This coverage is not optional. They will see a charge of \$43.50—an average cost of \$7.25 per month—for this coverage on their student account once at the beginning of each

fall and spring semester. Payment of this fee for two consecutive semesters provides year around coverage until graduation from their program.

Questions and More Information

Office of Student Health Benefits
University of Minnesota
410 Church Street S.E., N323
Minneapolis, MN 55455
Phone: 612-624-0627 or 1-800-232-9017
Fax: 612-626-5183 or 1-800-624-9881
E-mail: umshbo@umn.edu
shb.umn.edu

Immunizations

www.bhs.umn.edu/immunization-requirements.htm

According to OSHA regulations, CDC guidelines, and University of Minnesota policy, Academic Health Center (AHC) students are required to have a health clearance as a condition of enrollment.

More details and the downloadable *Student Immunization Record* form are available from Boynton Health Service at <http://www.bhs.umn.edu/> and click on immunizations.

Boynton Health Services

www.bhs.umn.edu/

Located on the University of Minnesota Twin Cities campus, Boynton Health is a primary health care clinic serving the U community—students, staff, and faculty. We accept clients from most health insurance plans.

Boynton provides quality, comprehensive health care services, counseling, and education, beyond the scope of most primary health care clinics:

- Primary and urgent care;
- Mental health services;
- Dental and eye clinics;
- Pharmacy needs;
- Women's health;
- Physical and massage therapy; and
- Health promotions such as flu shots and nutrition services.

Student Mental Health Resources

www.mentalhealth.umn.edu

The Provost's Committee on Student Mental Health developed a website to provide mental health information and resources related to the University of Minnesota-Twin Cities campus, for students, their parents, faculty, and staff.

The website helps connect students to crisis help, counseling services, support groups, and offers tips on helping others who are experiencing stressful events and/or mental health challenges.

If you (or someone you know) is having a mental health crisis and/or is in immediate danger, please call 911.

If the mental health crisis you are experiencing is not dangerous, but you wish to talk to someone immediately for assistance about what to do next, call this 24-hour help line:

Crisis Connection

612-301-4673

U of M Textline

Text "UMN" to 61222

Smoke-free University

The University of Minnesota, Crookston, Duluth, Rochester, and Twin Cities are smoke- and tobacco-free campuses. All students, staff, faculty, and visitors are prohibited from smoking and using, selling, free distributing, and advertising tobacco products and electronic cigarettes in all facilities and on all University property.

The success of this policy will depend upon the thoughtfulness, consideration, and cooperation of everyone on campus, including tobacco-users and non-users. All members of the University community are responsible for enforcing this policy. Students, faculty, staff, and visitors who violate this policy should be reminded of the policy and asked to comply. Repeated violation of this policy may be cause for disciplinary action in accordance with applicable student or employee codes of conduct. Visitors who refuse to comply with this policy may be asked to vacate campus property.

The Aurora Center

www.umn.edu/aurora

The Aurora Center for Advocacy and Education provides crisis intervention and advocacy services to victim/survivors of sexual and relationship violence, harassment and stalking. The staff and volunteers are also available to provide prevention training and education on a variety of issues.

Lactation Spaces

lacspaces.umn.edu/

Spaces are available on campus offering private and comfortable rooms that are designed specifically for nursing mothers to be able pump and store breast milk. If you have questions and concerns about lactation spaces or resources, please contact Susan Warfield (warfi002@umn.edu).

Recreation & Wellness Center

recwell.umn.edu/

The University Recreation and Wellness Center opened its doors in 1993, and is commonly referred to by students as the Rec Center. An expansion to the original building opened in 2013. Located on the University of Minnesota's East Bank Campus, the facility serves between 3,000 and 5,000 patrons on an average weekday during the academic year. The Department of Recreational Sports also offers opportunities for the following:

- Aquatics
- Fitness
- Golf
- Intramurals
- Outdoor Recreation
- Sport Clubs
- Wellness
- Youth Programs

2.5 DIVERSITY

Diversity and Inclusiveness

The University of Minnesota (University) is committed to achieving excellence through equity and diversity. We believe that a diverse student body enhances the academic and social environment for all students and prepares students to thrive in an increasingly diverse workforce and society. Equitable access to education is critical to preparing students for the responsibilities of citizenship and civic leadership in a heterogeneous society. The University strives to provide equitable access and opportunity in its programs, facilities, and employment. The University will also establish and nurture an environment for faculty, staff, students, and visitors that actively acknowledges and values difference and is free from racism, sexism, ageism, homophobia, and other forms of prejudice, intolerance, or harassment.

The global, population-based nature of public health demands that the School of Public Health (SPH) seek and train students of all racial, ethnic, economic and educational backgrounds. We believe such diversity enriches the learning experience and helps build excellence in public health leadership. The SPH is dedicated to providing our students with a supportive and welcoming academic experience in and out of the classroom. The student led *Diversity Matters*, and faculty led *Health Equities Work Group* organizations are designed to address and explore issues of diversity that impact public health professionals.

We also strive to create a community that is actively engaging in the areas of diversity and inclusiveness to create an excellent educational environment. The SPH defines inclusiveness as all-embracing of the fullness of humanity. Our goal is to recognize differences, address disparities, and to help cultivate understanding within the SPH community. This sense of inclusiveness recognizes that diversity is not limited to a select number of categorical elements of a person but encompasses all of person's attributes as well as their intersections.

The SPH Coordinator of Diversity, Equity and Inclusion, Lauren Eldridge, works with students, staff, faculty, and community members to advance equity and diversity within the SPH. Her office is located in A395-3 Mayo Memorial Building or you can contact her at leldridg@umn.edu or at 612-624-9970.

For more information please visit:

- University policy on Equity & Diversity - regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf
- Office for Equity and Diversity - diversity.umn.edu/eoaa/home
- SPH info and resources for Diversity & Inclusion - www.sph.umn.edu/about/diversity-inclusion/

In addition, the University has several offices across campus whose purpose is to support underrepresented students and promote diversity. The following is a list of some of those offices:

Disability Resource Center

diversity.umn.edu/disability/

Location: 108 McNamara Alumni Center, 200 Oak Street SE (East Bank)
Phone: (612) 626-1333 (Voice/TTY)

Disability Resource Center promotes access and equity for students with disabilities (e.g., physical, learning, psychiatric, sensory or systemic) and assists the University in achieving its mission to provide optimal educational opportunities for all

students as well as obligations under federal and state statutes. Students are responsible for contacting Disability Services for more information or to arrange accommodations.

Diversity in Graduate Education

diversity.umn.edu/gradeducation/

Location: 333 Johnston Hall, 101 Pleasant Street SE (East Bank)
Phone: (612) 625-6858

The Office for Diversity in Graduate Education (ODGE) coordinates and leads the University's initiatives in the recruitment, funding, retention and graduation of a diverse graduate and professional student body. Additionally, ODGE works closely with The Graduate School and other units connected to diversity and multiculturalism.

The Gender and Sexuality Center for Queer and Trans Life

diversity.umn.edu/glbta/

Location: 46 Appleby Hall, 128 Pleasant Street SE (East Bank)
Phone: (612) 625-0537

The Gender and Sexuality Center for Queer and Trans Life is dedicated to transforming campus climate for University of Minnesota students, staff, faculty, alum and community members by developing and supporting more inclusive understandings of gender and sexuality through education, advocacy, outreach and support.

International Student and Scholar Services

www.isss.umn.edu/

Location: 109 Hubert H. Humphrey School, 301 19th Avenue S (West Bank)
Phone: (612) 626-7100

International Student and Scholar Services (ISSS) is the office dedicated to serving the University international community. Its primary mission is to assist international students and scholars in successfully accomplishing the goals that brought them to the University, by using all available resources. Services include:

- Counseling and advising
- Immigration and visa regulation advising
- Newsletters
- Career services
- Academic opportunities for university students
- Tax return information

Multicultural Center for Academic Excellence

diversity.umn.edu/multicultural/

Location: 140 Appleby Hall, 128 Pleasant Street SE (East Bank)
Phone: (612) 624-6386

The Multicultural Center for Academic Excellence (MCAE) is a campus-wide resource that promotes an inclusive atmosphere to foster and enrich multicultural understanding among all members of the University community. MCAE's commitment to creating such a climate is driven by a student-first culture in which students are the highest priority.

Office of Equity and Diversity

diversity.umn.edu/

Location: 432 Morrill Hall, 100 Church Street SE (East Bank)
Phone: (612) 624-0594

The mission of the Office of Equity and Diversity (OED) is to leverage the transformative power of equity and diversity to advance excellence in teaching, research and community engagement at the University of Minnesota. OED envisions a University where equity and diversity are:

1. Integrated into the work and lives of every student, faculty and staff member.
2. Recognized as core institutional values, and will inform thinking, policies and practices throughout the University.
3. Inherently intertwined with academic excellence and the development of leaders for a globally inclusive society.

Office of Equal Opportunity and Affirmative Action

diversity.umn.edu/eoaa/

Location: 274 McNamara Alumni Center, 200 Oak Street SE (East Bank)
Phone: (612) 624-9547

The Office of Equal Opportunity and Affirmative Action (EOAA) was founded in 1972 to ensure that all University community members uphold federal and state civil rights laws and regulations, as well as University equal opportunity policies. The EOAA Office envisions a University community that is equitable—one that values the diversity of its workforce and student body and is free from discrimination and harassment.

Student Conflict Resolution Center

www.sos.umn.edu/

Location: 254 Appleby Hall, 128 Pleasant St. SE (East Bank)
Phone: (612) 624-7272

The Student Conflict Resolution Center (SCRC) offers informal and formal conflict resolution services to resolve students' University-based problems and concerns. An ombudsman provides confidential, neutral and informal options. An advocate is available to assist students in formal grievance or disciplinary proceedings.

Women's Center

diversity.umn.edu/women/

Location: 64 Appleby Hall, 128 Pleasant Street SE (East Bank)
Phone: (612) 625-9837

The Women's Center advances equity for women students, staff, faculty and alumnae across identities. The Women's Center increases connections for women's success, cultivates socially responsible leaders and advocates for organizational culture change toward excellence for all.

2.6 ACADEMIC RESOURCES

University Libraries

hsl.lib.umn.edu/biomed

The Bio-Medical Library, located in Diehl Hall, contains materials in the areas of allied health, medicine, mortuary science, nursing, pharmacy, public health, and the basic life sciences. In addition the library provides numerous resources and services such as library instructional classes, research workshops, reference consultations, library mediated searches, and citation clarification. The Mathematics library (<https://www.lib.umn.edu/math>), located in Vincent Hall, contains materials in the area of mathematics and statistics.

Information on other University libraries and collections can be found at www.lib.umn.edu.

The Subject Librarian for the School of Public Health is Shanda Hunt. Please email her or call to set up an appointment: hunt0081@umn.edu or (612) 301-1318.

Bookstore

www.bookstore.umn.edu

The University of Minnesota Bookstore, located in Coffman Union, sells texts for all Public Health courses. Course materials can also be ordered online.

Center for Educational Innovation

cei.umn.edu/about/about-cei

The Center for Educational Innovation (CEI) was created in 2014 by Provost Karen Hanson to strengthen instructional and academic technology collaboration and support across the University. By combining the Center for Teaching and Learning and the Office of eLearning, the CEI provides expertise that supports curricular and pedagogical innovation in campus classrooms and in online courses and programs.

Center for Writing

writing.umn.edu/

The Center for Writing provides free writing instruction for all University of Minnesota students at all stages of the writing process. In collaborative consultations, we help students develop productive writing habits and revision strategies. This may be through appointments or online.

The Online Writing Center offers online tutoring to students taking Writing-Intensive courses at the University of Minnesota. Online tutoring is conducted via the Web, and consists of comments and feedback offered by our experienced writing tutors.

Tutors are trained in fields such as composition, speech communication, scientific and technical communication, and rhetoric, and many of them are instructors at the university. Tutors review the writing you submit by offering comments and suggestions for improvement; however, they will comment mainly on the areas students specify.

Computing Services

it.umn.edu/services/

The University's Academic and Distributed Computing Services (ADCS) website provides a wealth of information and services available to students including:

Computer Lab Locations
Computer Rental
Internet Services and Email Accounts
Computers and Software for Purchase

Training
Support and Help Services
Resources and Useful Links
Security

2.7 CAMPUS SAFETY

Police

publicsafety.umn.edu/

The University of Minnesota has a full service police department in the event of an emergency dial 911.

Security Monitor Program

www1.umn.edu/police/escort.html

The Security Monitor Program offers a walking/biking escort service to and from campus locations and nearby adjacent neighborhoods. This service is available at no charge to students, staff, faculty, and visitors to the University of Minnesota – Twin Cities campus. To request an escort by a trained student security monitor, please call 612.624.WALK (9255) shortly before the desired departure time and walk safe.

TXT-U Emergency Notification

www1.umn.edu/prepared/txtu/

TXT-U is the University of Minnesota's emergency notification text messaging system. Students, faculty, and staff can stay informed about critical campus safety information by registering to receive TXT-U messages.

TXT-U will be used infrequently and specifically for real emergency situations.

Campus Wide Emergency Alert System

The Campus Wide Emergency Alert System includes 21 outdoor loudspeakers mounted on poles and rooftops on the West Bank and East Bank and in St. Paul. The system will allow for an alert tone and vocal instructions in the event of a campus emergency.

2.8 ADDITIONAL RESOURCES

Post Office

sua.umn.edu/locations/postal-stations/

A full-service U.S. Post Office is located on the ground floor of Coffman Union.

Copies/Fax Machines

www.printing.umn.edu

A University Copy Center is located in Mayo D104 as well as other locations throughout the University.

Student Conflict Resolution Center

www.sos.umn.edu

The Student Conflict Resolution Center assists students in resolving campus-based problems and concerns through coaching, intervention and mediation by Ombudsman and Advocacy staff.

Student Legal Service

www.umn.edu/usls/

University Student Legal Service (USLS) functions to provide legal representation and legal advice to eligible students on the Twin Cities campus.

3. REGISTRATION

3.1 FULL-TIME STATUS

All SPH students need to register for at least six (6) credits in fall and spring semester to be considered full-time. In summer MHA and MPH students must be registered for 6 credits to be considered fulltime and 3 credits to be considered half-time.

Note: The Office of Financial Aid or external agencies may require students to be registered for more than three or six credits to be considered full-time; check with these agencies to verify their requirements.

3.2 REGISTRATION PROCESS

Step One

Select courses for the term with your advisor before registering (make an appointment at the earliest convenient time). To view available courses:

1. Log into [MyU](#).
2. Select the **My Academics** tab, then the **My Classes** sub-tab.
3. Click on **Class Search** (in Enrollment Tools section).
4. Determine search criteria; you must select your campus (Institution), term, and at least two additional criteria. Students in the School of Public Health will find the majority of their courses listed under the subject "PUBH".

Note: 5000 through 8000-level courses are considered graduate-level. 1000 and 3000-level courses are for undergraduates and will not receive approval for graduate credit. Under some circumstances – with approval of the student's major field – 4000 – level courses may also be applied toward a MPH degree as long as they are taught by a member of the graduate faculty.

5. View your search results. To see only classes that are open, select Show Open Classes Only.
6. To continue searching, click New Search or Modify Search. If you hit the back button, you will lose your search results. Click the class number to see more details. You can search for a subject by entering subject code or clicking Select Subject. For more search options, expand Additional Search Criteria. When you are satisfied with your criteria, click Search.

Step Two

After selecting your courses, run through the checklist below before registering. Frustrating delays can be avoided by following these hints:

- If instructor consent is necessary for any of your selected course(s), get a permission number from the course instructor or his/her designee before registering. This number permits registration for the course through the second week of the semester; after the second week, it expires. Note that the number is specific to the student it is given to and the course requiring instructor consent. Once a number is used to register, it becomes invalid and cannot be used for another course or by another student.
- You will not be able to register if you have any holds on your University record. Notice of any hold, including the name of the department or office where it may be cleared, is available at myu.umn.edu.
- You can find your registration queue date and time on the web at myu.umn.edu.
- You will need your x.500 login and password to register. If you have forgotten your password, call 612.301.4357 to have your password reset. You can also call this number if you have problems logging in to register.

Step Three

Register via the web at myu.umn.edu or go to the University's One Stop Student Services Center in 333 Robert H. Bruininks Hall on the East Bank Campus to register in person. Students having difficulty with self-registration should contact the registration help-line at 612.624.1111 (M-F 8:00-4:00) or email onestop@umn.edu. You may also contact your Program Coordinator or the School of Public Health Student Services Center at 612.626.3500. Please note the following when registering:

- Most courses give the option of either an A/F or S/N (pass/fail) grading option. Be sure to select the grade option desired for the course. Note that there may be a limit to the number of credits a student can take S/N (pass/fail); see the major section of this guidebook for more information. Stricter policies may be enforced by individual majors/programs. There is a strict and early deadline for when grading options can be changed.
- Some courses have variable credits. Before selecting the number of credits, students should make sure they are in agreement with the instructor as to the number of credits appropriate for the work proposed.

3.3 GRADE OPTION CHANGES, COURSE ADDITIONS, WITHDRAWAL AND EVALUATIONS

Change of Grade Option

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. After that, grading options cannot be changed. Grade option change deadlines for other terms (i.e. summer and half-semester) can be found at onestop.umn.edu. For more information about grading policies, see section 5.4 University Senate Uniform Grading and Transcript Policy.

Adding a Course

No approval is required to add a course during the first week of classes. Instructor approval is required during week two. After the second week of classes, instructor and college scholastic committee approval is required. Deadlines for adding a course for other terms (i.e. summer and half-semester) can be found at onestop.umn.edu.

Registration Exception Form

Students must consult with their program coordinator prior to submitting any paper or electronic forms. After this consultation, students must complete a formal request to change their registration (e.g., add, drop, change your grade basis) after a deadline or to register for more than 18 credits. Please ask your program coordinator for the appropriate form. Approval is not automatic.

Course Cancellation and Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at sph-SSC@umn.edu for further information.

Repeat and Bracket Course Policy

An officially admitted SPH student (MHA, MPH, MS, PhD, and Certificate Programs) may repeat a public health course only **once**.

MHA, MPH, and Certificate students have the option to bracket a particular course (with the same course number) **one time**. Bracketing is a practice where one grade is omitted from GPA calculations, while continuing to appear on the transcript.

Only courses with the same catalog number may be bracketed.

A University of Minnesota course may not be bracketed with a course taken at another institution.

How bracketing works: When an SPH student repeats an SPH course, both grades for the course will appear on the official transcript and will be counted towards the GPA calculation. The student is responsible for submitting a written request that a repeated course be "bracketed" (only once per course). If a student registers for a course a third or greater number of times (either in violation of this policy or by approved exception), all non-bracketed grades will be factored into GPA calculations. It is important to note that student school loans may not cover the tuition cost of repeating a course.

Exceptions: Exceptions to this policy must be submitted to the student's academic advising team and discussed with the course instructor. *Example:* Requesting to repeat a course (more than two times) is at the discretion of the academic advising team and may be approved due to extraordinary circumstances such as documented illness or hospitalization, death in family, etc..

Higher standards of achievement and stricter repeat policies may be enforced by individual majors/programs. This may include restrictions on repeating core courses that are also core to a major, and/or requiring that students earn better than a B- in particular courses in order to meet major/program requirements. Documentation of such policies can be found in the program portion of student guidebooks.

Students can consult with their advising team for alternative core course options.

Other Transcript Symbols

Incomplete [I]

There shall be a temporary symbol I, **incomplete**, awarded to indicate that the work of the course has not been completed. The I shall be assigned at the discretion of the instructor when, due to extraordinary circumstances, the student was prevented from completing the work of the course on time. The assignment of an I requires a written contract between the instructor and student specifying the time and manner in which the student will complete the course requirements. In no event may any such written agreement allow a period of longer than one year to complete the course requirements. The Incomplete contract can be found at <http://secure.ahc.umn.edu/publichealth/sphgrades/>

For graduate/professional students, an I is to remain on the transcript until changed by the instructor or department.

When an I is changed to another symbol, the I is removed from the record.

A student does not need to be registered at the University in order to complete the work necessary to convert an I to a grade with credit in the time and manner previously agreed upon between the student and the instructor. The instructor is expected to turn in the new grade within four weeks of the date the work was submitted by the student.

Interpretation of Policy on Incompletes for Students Called to Active Military Duty

When appropriate, instructors may prefer to arrange for the student to take an incomplete. Senate policy requires that an incomplete be made up within one calendar year of the end of the term in which the incomplete is given. When students are called to active military duty, and reach agreement with their instructor(s) to take an incomplete, they will have up to one calendar year following their discharge from active duty to complete their incomplete(s). Complete policies and procedures are available in the SPH Student Services Center.

Transfer [T]

There shall be a symbol T, **transfer**, posted as a prefix to the original grade, to indicate credits transferred from another institution or from one college or campus to another within the University when reevaluation is required.

Withdrawal [W]

If a student officially withdraws from a course during the first two weeks of classes, there shall be no record of that course registration entered on the student's transcript. There shall be a symbol W, **withdrawal**, entered upon a student's record when the student officially withdraws from a course in accordance with procedures established by the student's college or campus*. The W will be entered on the transcript irrespective of the student's academic standing in that course if the student withdraws from the course during the third through eighth week of class (second or third weeks of summer sessions). Withdrawal in the ninth or later week of classes (fourth or later in summer sessions) shall require approval of the college and may not be granted solely because a student is failing the course; there must be extenuating non-academic circumstances justifying late withdrawal.

Continuation [X]

There shall be a symbol X, indicating a student may continue in a continuation course in which a grade cannot be determined until the full sequence of courses is completed. The instructor shall submit a grade for each X when the student has completed the sequence.

In Progress [K]

There shall be a symbol K, assigned by an instructor to indicate the course is still in progress and that a grade cannot be assigned at the present time.

Course Prerequisites

Any college or campus may set special scholastic or other standards for registration in a particular course, for scholastic probation, admission, honors, continued residence, degrees, and other purposes they deem appropriate.

Grade Submission

All grades for all courses each term shall be submitted to the Office of the Registrar no later than 72 hours after the last final examination for that term. Students can view their grades online at myu.umn.edu 24 hours after they are posted by the course instructor.

Course Evaluations

Student feedback on course content and faculty teaching skills are an important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered. The SPH collects student course evaluations electronically using a software system called CoursEval: sph.umn.edu/students/current/course-eval-grades/. The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grade as soon as the faculty member renders the grade in SPHGrades: www.sph.umn.edu/grades. All students will have access to their final grades through OneStop two weeks after the last day of the semester regardless of whether they completed their course evaluation or not.

Note: Responses will remain anonymous and will not be released to the course instructor until after final grades have been submitted. This is School of Public Health procedure - not a University-wide policy - and therefore applies to Public Health courses only.

3.4 TRANSFER CREDIT

Course Credit Transfer Policy

A student may seek transfer of no more than 40% of their total graduate or professional program credits taken at the University of Minnesota or at another college or university prior to the SPH program matriculation. Course credits may be used to satisfy public health core or other program requirements as jointly approved by the Program Director and the Senior Associate Dean for Academic Affairs. No course credits older than 5 years from the date of the student's matriculation will be accepted for transfer. **A grade of "B-" or better is required for each course requested for transfer credit.**

SPH students who have completed graduate-level coursework at the University of Minnesota or another college or university may petition to transfer those courses toward their SPH degree. To be considered for transfer, graduate level coursework must have been taken at an accredited graduate institution.

Higher standards of achievement and stricter policies may be enforced by individual majors/programs.

Students must:

1. Meet with their academic advisor to discuss the petitioning process. If the petition is acceptable to the advisor, the student will complete and sign the Academic Policy Petition form, and attach an official transcript on which the final grade has been posted.
2. Submit the Academic Policy Petition form to the Program Coordinator for processing. The Academic Policy Petition form can be found at www.sph.umn.edu/current/resources/. The Program Coordinator will forward the petition to the Program Director for approval and signature and then to the Student Services Center for the Associate Dean for Learning Systems and Student Affairs for final evaluation and/or approval.

The Academic Policy Petition forms may be used for other academic reasons. Students are encouraged to discuss petition issues with their academic advisor or Program Coordinator to determine the appropriate process and procedure.

3.5 EQUIVALENCY EXAMS

Equivalency examinations are given at least twice each year (January and August). Students have the option of taking the equivalency exams in any of the following core areas; however, **students can only take the exam one time in each core area.** Students who pass the exam(s) are waived from taking the required course and must make up the credits per their area of study and degree requirements. A notation on the student's transcript will be documented if the student passes an equivalency exam. Students who do not pass the exam(s) are required to take the appropriate core course area to satisfy the competency requirements. Equivalency exams satisfy competency requirements for the following core courses only:

PubH 6020 Fundamentals of Social and Behavioral Science

Contact: *Toben Nelson tfnelson@umn.edu*

Number of questions on exam	4
Type of questions	Essay
Open or closed book	----

PubH 6751 Principles of Management in Health Services Organizations

Contact: *Jim Begun begun001@umn.edu*

Number of questions on exam	32
Type of questions	25 multiple choice, 3 essay, 1 case analysis with 4 questions
Open or closed book	Closed

PubH 6102 Issues in Environmental and Occupational Health

Contact: *Bill Toscano tosca001@umn.edu*

Number of questions on exam	200
Type of questions	Multiple choice
Open or closed book	Closed

PubH 6320 Fundamentals of Epidemiology

Contact: Rachel Widome widom001@umn.edu

Number of questions on exam	31
Type of questions	Multiple choice, show-your-work problems
Open or closed book	Open

PubH 6450 Biostatistics I

Contact: Sally Olander brown198@umn.edu

Number of questions on exam	60-75
Type of questions	Multiple choice, short answer, and show-your-work problems
Open or closed book	Open

PubH 6741 Ethics in Public Health: Professional Practice and Policy

Contact: Sarah Gollust sgollust@umn.edu

Number of questions on exam	10
Type of questions	Short answer
Open or closed book	Open (no internet access)

4. TUITION, FEES, BILLING, AND FINANCES

4.1 MY FINANCES TAB ON MYU

The My Finances tab in MyU.umn.edu is where you'll find information about billing, payment and financial aid.

On the left side is where you will view account charges and billing statements. It is also where you can submit an online payment using the preferred and free e-check method and don't forget to sign up for Direct Deposit. . And for those of you from Wisconsin, North Dakota, South Dakota, and Manitoba, remember to apply for reciprocity through your home state or province right way so your bill will have the correct amounts.

On the right side you will see our 5 steps to receiving financial aid, from completing the Free Application for Federal Student Aid, the "FAFSA", to having funds disburse to your student account. Your status will update as you progress through the steps.

4.2 TUITION AND FEES

Please go to onestop.umn.edu/ for complete tuition and fee information.

4.3 BILLING

Your billing statement details your amount due (tuition, fees, housing, books, and other campus charges) and your payment due date. You will receive a notice in your University email account when it is ready to view. If you have account charges on more than one campus, you will receive separate billing notices for each campus.

The first fall billing statement for 2017-2018 will be published on September 3, you will receive a notice sent to your University email address. The bill will be due on September 16. You may opt into a payment plan when the bill is available, which will divide your payments over three billing periods throughout the semester. Make sure you always pay your bills on time to avoid late fees or cancellation of future class registration

Your billing statement is a snapshot of the charges and credits applied to your account as of the date the statement was created. For the most up-to-date account activity information, you can check your student account on the My Finances tab in MyU.

Third Party Billing

onestop.umn.edu/finances/third-party-billing

When an organization, not owned by you or a family member, makes a commitment to pay your educational expenses, they are considered a third party sponsor by the University of Minnesota. When payment is due on your student account, the sponsor is billed by the University. This payment process is termed "third party billing."

Sponsor's payments are subject to the same federal reporting requirements as other financial aid. Some sponsorships don't require a billing invoice and are administered by the University through One Stop Student Services.

Whether you are a student or a sponsor, you will find answers in the frequently asked questions (FAQ) about how the third party billing processes these payments at the links on the left. In addition, you can view current tuition and fee information.

If you have more questions or need further information, please contact the third party billing office at tpbill@umn.edu or 612-625-8559.

4.4 FINANCIAL AID AND SCHOLARSHIPS

A variety of resources to assist students in financing their education can be found at sph.umn.edu/admissions/paying/. Information specific to SPH Divisions and/or Programs may be found in the Division and/or degree program sections of this guidebook.

Information on financial aid can be found at onestop.umn.edu or by -mailing onestop@umn.edu.

Students having questions about the status of their financial aid should refer to the appropriate contact below:

AID TYPE	CONTACT	EMAIL ADDRESS
Division/Major Specific Awards and Traineeships, the Dean's Scholarship	Your Program Coordinator	brown198@umn.edu
Medica Scholarships, and scholarships that support specific US minority groups	SPH Student Services	sph-ask@umn.edu
Federal Loans, Financial Aid Package	Liz Holm	holmx029@umn.edu

Loan Deferment

A temporary postponement of loan payments available only under certain conditions; some loans do not accrue interest in deferment, such as subsidized loans policy.umn.edu/forms/fa/fa830.pdf.

Students requesting a loan deferment can get their form signed by One Stop Student Services onestop.umn.edu.

Financial Aid Exit Counseling

Exit counseling sessions are required of all borrowers of federal and University-administered student loan programs. Exit counseling provides you information regarding the rights and responsibilities of a borrower and a lender/servicer. You learn about repayment, deferment, and cancellation of your loan. These sessions prepare you to be responsible and effective in repayment of your educational loans.

You are required to complete exit counseling when you:

- are about to graduate.
- leave the University (even if it is just temporary).
- drop your registration below half-time enrollment.
- transfer to another school.
- leave for a National Student Exchange (NSE) experience.

Once you have been selected for the exit process, you will receive an email with instructions to complete your exit counseling online. Make sure you respond by completing your exit counseling in a timely manner! A hold will remain on your student record until your exit counseling is complete, delaying your diploma, preventing registration, and preventing access to your transcripts.

For more information about student loan exit counseling, contact Student Account Assistance : onestop.umn.edu

4.5 GRADUATE ASSISTANTSHIPS

Many SPH students use graduate assistantships to help finance their education. These are campus working/learning positions that take the form of research, teaching, or administrative appointments. Degree-seeking students in the SPH registered for six or more credits, including international students, are eligible to apply for any assistantship on campus. Because many assistantships are funded by grants, the vigorous research activity of SPH faculty makes available numerous opportunities in the school.

Graduate assistantships include an hourly wage, tuition benefits, subsidized insurance coverage, and may include resident tuition rates for student and dependents.

For graduate assistant policies and benefits, go to www1.umn.edu/ohr/gae.

The tuition benefits are particularly attractive to students. Graduate assistants who work at least 25% time from the beginning to the end of the official semester appointment dates are eligible to receive tuition benefits (tuition remission and resident rates) during that semester.

5. UNIVERSITY GUIDELINES AND POLICIES

5.1 STUDENT RESPONSIBILITY AND CONDUCT

Students are ultimately responsible for the level of success that they achieve in their program of study and for the time it takes to complete that program. Students should:

- Attend fall orientation and understand the information distributed.
- Understand and follow University, School of Public Health, Division, and Program rules and procedures for completion of degree requirements.
- Read email messages frequently for announcements from the Program Coordinators, Program Directors and Director of Graduate Studies, Student Services Center, and Career Center. These announcements may involve changes in the University, School or Division rules and procedures for completion of degree requirements; students are responsible for reading and understanding these announcements.
- Check their student mailbox often for printed informational materials.
- Contact a Program Coordinator, Program Directors or Director of Graduate Studies if they are not getting reasonable assistance from their academic and/or master's project/thesis advisor.
- Initiate and maintain contact each semester with their academic advisor to review progress toward the completion of their degree.
- Complete the degree in a timely fashion.

The School of Public Health emphasizes three principles of student conduct in all of its degree programs:

1. **Respect others**

Students are expected to behave in a respectful and professional manner with other students, faculty, and staff in the classroom and on campus.

2. **Honor privacy**

Every student's course grades are private and are not to be shown to anyone else. This also applies to the grades of students in courses for which you are a Teaching Assistant.

3. **Present your work honestly**

Plagiarism is defined as the presentation of another's writing or ideas as your own. For a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity:

<http://writing.umn.edu/tww/preventing/definitions.html>. Students should be careful to properly attribute and cite others' work in their writing. For guidelines for correctly citing sources, go to tutorial.lib.umn.edu.

The Associate Dean for Learning Systems and Student Affairs is responsible for managing all School of Public Health issues and investigations of academic misconduct.

5.2 UNIVERSITY OF MINNESOTA POLICIES

As part of the larger University of Minnesota community, students in the School of Public Health are responsible for abiding by the Board of Regents policies and other University-wide administrative policies. These policies can be found in full at policy.umn.edu.

This policy library holds policies that apply to the entire University system (all five campuses), as well as policies that apply to the Twin Cities campus. The site also displays Board of Regents policies, which are managed through the Board office.

In an effort to avoid potential duplication, omission, or transcription errors, we direct SPH students to read the policies at the original source. We encourage you to particularly become aware of the following:

Student Conduct Code

This policy governs the expected standards of behavior for students and applies to all students and student organizations at the University of Minnesota, whether or not the University is in session.

The Office for Community Standards is the unit of the university that works to educate the community about the policies governing student behavior and resolve reported violations of the Student Conduct Code. The process they follow is designed to resolve issues in a way that is fair to all community members.

<https://communitystandards.umn.edu/>

Below are the Student Conduct Code's guiding principles:

- a) The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University.
- b) The University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.
- c) The University is dedicated to responsible stewardship of its resources and to protecting its property and resources from theft, damage, destruction, or misuse.
- d) The University supports and is guided by state and federal law while also setting its own standards of conduct for its academic community.
- e) The University is dedicated to the rational and orderly resolution of conflict.
- f) Students are entitled to the rights and responsibilities of other citizens with regard to freedom of speech, peaceable assembly, and right to petition. Students are entitled to exercise their rights to inquire and dissent, speak freely, and peaceably assemble and protest to the extent permissible under both the First Amendment and the Student Conduct Code.
- g) Students are entitled to due process and procedural fairness protections, including the prompt notification of charges, the opportunity to respond, the right to an advocate of choice, and the right to the resolution of a case within a reasonable period of time.

Any student or student group found to have committed, attempted to commit, or assisted or abetted another person or group to commit the following misconduct is subject to appropriate disciplinary action under this policy:

- | | |
|--|---|
| 1. Scholastic Dishonesty. | 12. Providing Alcohol to Minors. |
| 2. Disruption of the Academic Environment. | 13. Unauthorized Use of University Facilities or Services. |
| 3. Falsification. | 14. Theft, Property Damage, or Vandalism. |
| 4. Refusal to Identify and Comply. | 15. Unauthorized Access. |
| 5. Attempt to Injure or Defraud. | 16. Disruptive Behavior. |
| 6. Harm to Person. | 17. Hazing. |
| 7. Bullying. | 18. Rioting. |
| 8. Sexual Misconduct. | 19. Violation of University Rules. |
| 9. Disorderly Conduct. | 20. Violation of Local, State, or Federal Laws or Ordinances. |
| 10. Illegal or Unauthorized Possession or Use of Weapons. | 21. Persistent Violations. |
| 11. Illegal or Unauthorized Possession or Use of Drugs or Alcohol. | |

Scholastic Dishonesty and Plagiarism

Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the Office for Community Standards.

The University's Student Conduct Code defines scholastic dishonesty as "plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using course materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, misrepresenting, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis."

- Copying information word for word from a source without using quotation marks and giving proper acknowledgement by way of footnote, endnote, or in-text citation;
- Representing the words, ideas, or data of another person as one's own without providing proper attribution to the author through quotation, reference, in-text citation, or footnote;
- Producing, without proper attribution, any form of work originated by another person such as a musical phrase, a proof, a speech, an image, experimental data, laboratory report, graphic design, or computer code;
- Paraphrasing, without sufficient acknowledgment, ideas taken from another person that the reader might reasonably mistake as the author's; and
- Borrowing various words, ideas, phrases, or data from original sources and blending them with one's own without acknowledging the sources.

It is the responsibility of all students to understand the standards and methods of proper attribution and to clarify with each instructor the standards, expectations, and reference techniques appropriate to the subject area and class requirements, including group work and internet use. Students are encouraged to seek out information about these methods from instructors and other resources and to apply this information in all submissions of academic work.”

Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: <https://communitystandards.umn.edu/>

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to www.lib.umn.edu/instruction/tutorials and click on “Organizing and Citing Research.”

In addition, original work is expected in all coursework. It is unacceptable for students to hand in assignments for any course for which they received credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable.

All issues relating to academic misconduct in the School of Public Health are referred to the Associate Dean for Learning Systems and Student Affairs.

Sexual Harassment

This policy governs the commitment to the prevention and awareness of and response to sexual harassment at the University of Minnesota.

Research Involving Human Subjects

This policy governs all research involving human subjects conducted at the University of Minnesota or by University faculty, staff, or student researchers.

Grading & Transcript Policy

This policy covers University-wide grading standards and the meaning of transcript symbols. A standard grading system establishes a common understanding of the meaning of grades and promotes uniformity in assigning them. Defining grades and their associated meaning (grade points and assessment of achievement) allows for comparison and for computation of the term and cumulative grade point average.

Leave of Absence

Graduate students who experience circumstances that prevent them from maintaining active status through continuous registration (excluding summer term), and who, through consultation with their Director of Graduate Studies (DGS), Program Director, advisor(s), and relevant offices determine that a leave of absence (LOA) is appropriate, must request a LOA from their college office using this form. Graduate students must receive approval for an official Leave of Absence.

Forms must be submitted to the School of Public Health Student Services Center, A395 Mayo Memorial Building, MMC 819, 420 Delaware Street SE, Minneapolis, MN 55455.

5.3 PRIVACY

The School of Public Health is committed to protecting the privacy of students, staff, and research participants. Students have privacy rights that assure confidentiality of their student records. Research Participants have many rights that guarantee their safety and their privacy.

Often School of Public Health students work as Teaching Assistants and Research Assistants [that may require exposure] to private information. Please be [aware] of privacy laws, complete required privacy trainings, and act with the highest honor towards all private information.

For further information, go to privacy.ahc.umn.edu.

FERPA (Family Educational Rights and Privacy Act): Student Records

FERPA grants four specific rights to a post-secondary student:

1. To see the information that the institution is keeping on the student.
2. To seek amendment to those records and in certain cases append a statement to the record.
3. To consent to disclosure of his/her records.
4. To file a complaint with the FERPA Office in Washington.

In addition:

- U of MN Faculty and Staff have a legal responsibility, under FERPA, to protect the confidentiality of your student educational records.
- Student educational records are considered confidential and may not be released without written consent of the student.
- Student information stored in electronic format must be secure and available only to those entitled to access that information.

HIPAA (Health Insurance Portability and Accountability Act)

HIPAA is a federal law related to the privacy of an individual's health care information.

All students in the Academic Health Center (AHC), including School of Public Health students, must complete the University's online HIPAA Privacy training.

Login to www.ahc.umn.edu/privacy/training/home.html. Assigned courses are available for completion through ULearn. See the Training Instructions page for step-by-step instructions.

5.4 CRIMINAL BACKGROUND CHECKS

Students should be aware that certain facilities are required by Minnesota law to submit paperwork for a criminal background check for all personnel with direct, unsupervised client contact. Students placed in such facilities may be asked by the institution to submit paperwork, or the institution may require that they have this check facilitated by the School of Public Health or Division. The School is prepared to assist students with this process. Facilities that are covered by this law are hospitals, boarding care homes, outpatient surgical centers, nursing homes, home care agencies, residential care homes, and board/lodging establishments providing health supervision services. Client contact must be direct and unsupervised (outside the hearing or vision of a supervisor at the facility). In the unlikely event that this situation arises, students should call the School of Public Health Student Services Center at 612.626.3500 or go to A395 Mayo for assistance.

5.5 USE OF HUMAN SUBJECTS IN RESEARCH

Any research you conduct while a student at the University of Minnesota may be subject to review and approval by the University's Institutional Review Board (IRB) for the protection of human research subjects. This applies to projects conducted inside or outside the University. For research conducted outside of the University, students may still need IRB approval from the University even if approval has been obtained from an external agency. Any research involving human subjects must be reviewed by the IRB.

The IRB is a committee of faculty, students, and community members that follows federal regulations and ethical principles in order to protect human research subjects.

If your proposed research project is subject to IRB review, you must submit an application to the IRB before you begin. **You cannot begin any regulated research until you have IRB approval.** This includes sending out recruitment flyers or emails, accessing private data, or doing any aspect of your research. You may not be permitted to use any data that was collected without prior IRB approval. The IRB does not have the authority to approve a study *after* it has begun.

The IRB approval process may take as little as one week, but **can take up to 2 months or longer.** "Last minute" approvals are not possible, so it is important to plan ahead. Applications for international research, research with children, research about illegal or stigmatizing behavior, research with vulnerable populations, or research that incorporates deception often require more review time.

IRB Contact Information

(612) 626-5654

irb@umn.edu

research.umn.edu/units/irb

Projects that are not subject to IRB review include studies that rely on existing publicly available data, such as US Census data. If you are only doing an analysis of publicly available data (i.e., data you can download from a public website) you do not need IRB approval to use it. Technically, such work is research but does not involve living individuals from whom you collect information. On the other hand, an oral history study may not require IRB because it is not a systematic investigation designed to contribute to generalizable knowledge. However, there are many grey areas, so students proposing such work are strongly encouraged to contact the IRB to determine whether their project requires approval.

Additional guidelines for students involved in international fieldwork

If you plan to use data collected as part of your international field experience for your culminating experience project, you are strongly encouraged to contact the IRB before your field experience begins to ensure that your project is approved in a timely manner. **You will not be allowed to take data out of the host country without IRB approval.**

5.6 INTERNATIONAL STUDENT REQUIREMENTS

Note: International student requirements may change over time. For up-to-date information go to www.issss.umn.edu.

Global Gopher Online Orientation

The Global Gopher Online Orientation is a tool to help new international students prepare for their arrival at the University by learning about certain expectations and requirements. Students are required to complete the Global Gopher Online Orientation at least one week before their Immigration Check-in (information below).

Immigration Check-In

All new international students must visit the University of Minnesota International Student & Scholar Services office (ISSS) shortly after arrival in Minnesota. See www.issss.umn.edu for directions, office hours, and services. ISSS will review immigration documents, register new students for the International Student Orientation Program, and provide information on how to release registration holds. These processes are mandated by the Department of Homeland Security (DHS); formerly known as Immigration and Naturalization Service (INS).

International students are allowed to enter the U.S. only within 30 days of their program start date. Regulations and SEVIS requirements provide strict guidelines regarding this date, to coincide with the term of admission.

Student and Exchange Visitor Information System (SEVIS)

SEVIS is an electronic reporting system that provides the Department of Homeland Security with information on international students and scholars in the United States who hold F, J, and M visas. This internet-based record-keeping system maintains electronic data on all international students. The system tracks entries into and departures from the U.S.

In addition to the information routinely reported on I-20 and DS-2019 forms, other information is reported, including but not limited to: academic status, employment, and residential address.

For more information on SEVIS requirements, including those listed below, go to www.issss.umn.edu.

Academic Status

International students must maintain full-time status. MPH students must register for at least 6 credits each semester. Under special conditions, students may apply for an exemption from the full-time status rule at the ISSS office. Students must apply for the exemption before registering for less than a full course of study.

Address Change

International students **MUST** update their address **within 10 days** of a change of address to maintain their legal immigration status. For more information go to www.issss.umn.edu/INSGen/address.html

6. GROUPS, ASSOCIATIONS AND SOCIETIES

6.1 STUDENT GROUPS

School of Public Health Student Senate

www.sph.umn.edu/current/senate/

The Student Senate is comprised of graduate students of the University of Minnesota, School of Public Health.

The SPH Student Senate is the representative organization for the graduate and professional student body of the School of Public Health. The Student Senate seeks to improve all aspects of graduate and professional education by working to create a positive environment for students to learn, work, and socialize in the School of Public Health.

The SPH Student Senate welcomes input from all students from the school and invites you to join the Senate and help us serve the needs of the SPH students. Contact us at sphss@umn.edu.

The student senate officers for the 2017-2018 academic year are:

Office	Name
President	Sarah Moon
Vice President	Tolulope Odebunmi
Director of Finance	Mosunmoluwa Oyenuga
Secretary	Haley Miller
Director of Communications	Samantha Alch

Professional Student Government

www.umnpsg.org/

The professional student governance on the Twin Cities campus of the University of Minnesota rests with the Professional Student Government (PSG). All currently registered professional students at the University of Minnesota are members of PSG.

PSG represents and serves students in the Carlson School of Management, Law School, Medical School, Dental School, School of Nursing, College of Pharmacy, School of Public Health, College of Veterinary Medicine, College of Education and Human Development, and Humphrey School of Public Affairs. PSG is a resource for its 10 member Councils, the primary contact point for administrative units, a professional student policy-making and policy-influencing body, and as a center of inter- and intra-collegiate interaction among professional students.

Council of Graduate Students (COGS)

www.cogs.umn.edu

The Council of Graduate Students (COGS) is the official student governing board of the Graduate School, representing all Graduate Students at the U of M. The U administration looks to COGS for consultation and direction on all matters pertaining to the Graduate School experience, including Graduate Assistant issues.

Center for Health Interdisciplinary Programs (CHIP)

www.chip.umn.edu/

The Center for Health Interdisciplinary Programs or CHIP is a department of the Office of Education in the Academic Health Center Senior Vice President's Office. The CHIP Student Center serves AHC students in the schools of dentistry, dental hygiene, health care administration, medical technology, medicine, mortuary science, nursing, occupational therapy, pharmacy, physical therapy, public health, and veterinary medicine.

CHIP exists to foster interdisciplinary relationships and teamwork between Academic Health Center students. CHIP provides educational, leadership, and service opportunities for students.

Minnesota International Student Association (MISA)

www.facebook.com/misa.umn/

The Minnesota International Student Association (MISA) is a non-profit organization that aims at working in the interest of international students at the University of Minnesota. MISA represents the international community of the University of Minnesota Campus. There are about 3000 international students on this campus, whose length of stay varies from 3 months to several years. MISA plays a vibrant role in students' social lives, by being the forum for international students on the U of M campus and by organizing events throughout the year.

Other Groups

sua.umn.edu/groups/

More than 400 student groups on campus are registered with the University's Student Unions and Activities Office, including academic societies, cultural centers, sports clubs, political action groups and fraternities and sororities. These organizations provide students with endless involvement opportunities and the chance to interact with others who share a similar interest.

If you are interested in forming a group within the School of Public Health, please contact Crystal Esparza, Coordinator for Student Recruitment and Engagement at espa0018@umn.edu.

6.2 PUBLIC HEALTH RELATED ASSOCIATIONS AND AGENCIES

Minnesota Public Health Association

www.mpha.net/

Founded in 1907, the Minnesota Public Health Association (MPHA) is a statewide professional organization actively serving Minnesotans, our members, and the public health profession through its efforts and activities. MPHA is an affiliate of the American Public Health Association.

American Public Health Association

www.apha.org

The American Public Health Association (APHA) is the oldest and largest organization of public health professionals in the world, representing more than 50,000 members from over 50 occupations of public health.

Association of Schools and Programs of Public Health

www.aspph.org/

The Association of Schools and Programs of Public Health (ASPPH) is the only national organization representing the deans, faculty, and students of the accredited member schools of public health and other programs seeking accreditation as schools of public health.

Centers for Disease Control and Prevention

www.cdc.gov

The Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people - at home and abroad, providing credible information to enhance health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States.

National Institutes of Health

www.nih.gov

Begun as a one-room Laboratory of Hygiene in 1887, the National Institutes of Health today is one of the world's foremost medical research centers, and the Federal focal point for medical research in the U.S.

American College of Healthcare

www.ache.org

The American College of Healthcare Executives is an international professional society of more than 30,000 healthcare executives who lead hospitals, healthcare systems and other healthcare organizations.

6.3 ALUMNI SOCIETIES

School of Public Health Alumni Society

sphalumni.umn.edu

The University of Minnesota School of Public Health Alumni Community is represented around the world. Consisting of 10,000+ alumni, the SPH Alumni Community plays a key role in the School and public health community as they continue to shape public health policy, conduct ground-breaking research, lead innovative public health solutions and contribute to the future of public health.

Since its inception in 1982, the School of Public Health Alumni Society has worked to serve alumni and students, promote excellence in programs and serve the needs of the School. As an extension of the University of Minnesota Alumni Association, the SPH Alumni Society currently has more than 1,400 members. Membership is open to all graduates, former students who have completed a minimum of 12-18 credits, faculty and administrators of the school.

The SPH Alumni Society is committed to building relationships with students through various activities, including the SPH Mentor Program, partnering with SPH Student Senate, and bringing alumni to students to bridge professional opportunities.

MHA Alumni Association

mhaalumni.umn.edu

The Minnesota MHA Alumni Association was established in 1948 to facilitate ongoing support of the Healthcare Administration program and to continue fellowship among alumni. With 2200+ active alumni, the Association supports MHA students through scholarships and by providing learning opportunities, and strives to provide its alumni with education, engagement and philanthropy.

7. DIVISION OF BIOSTATISTICS

7.1 INTRODUCTION

J. Arthur Harris and Edna Lockwood of the Botany Department taught the first biostatistics course at the University of Minnesota in 1924. Biostatistics courses continued in the Botany Department until 1936, when the biostatistics group became the Biometry Division, headed by Alan Treloar, in the new Department of Preventive Medicine and Public Health. By 1965, when Biometry opened a computer center for students and faculty, Biometry was the largest division in the School of Public Health. The Division head at the time was Jacob Bearman, who has endowed an annual student award. Byron Brown headed the Division from 1965-1968, followed by Richard McHugh until 1972. Marcus Kjelsberg was Division Head until 1986, when Biometry became Biostatistics, with Thomas A. Louis as its new Division head. In 1999, Richard Tweedie became head of Biostatistics. Following Dr. Tweedie's sudden death in June 2001, John Connett became the Division head of Biostatistics. In May 2010, Bradley Carlin began his role as Biostatistics Division Head. During 2017-2018, Wei Pan will serve as interim Division Head while Dr. Carlin takes a 1 year sabbatical.

During the 2017-2018 academic year, there will be 34 faculty with Biostatistics Graduate Education responsibilities and around 85 graduate students: 43 in the PhD program and about 42 in the Masters degree programs. Our website at www.sph.umn.edu/biostatistics/ has notes on the faculty and their research and collaborative projects.

7.2 OVERVIEW OF DEGREE PROGRAMS

Biostatistics has four different graduate degree programs and 1 graduate minor program:

- Master of Science (MS) Plan B (*section 8*)
- Master of Science (MS) Plan A (*section 9*)
- Master of Public Health (MPH) (*section 10*)
- Doctor of Philosophy (PhD) (*section 11*)
- Graduate Minor in Biostatistics (Section 12)

The MS-Plan B program takes two academic years for full-time students, but we also accept part-time students and will help plan a schedule for completing the MS. The first year consists of two courses in applied biostatistics methods with extensive computing in SAS, two semesters of statistical theory, and a health science elective course. At the end of the first year, there is a written exam covering the two theory and two methods courses. During the summer many students gain experience at an internship in industry or research. In the second year, students take courses in clinical trials, analysis of survival data, plus three biostatistics electives. The MS is completed with a project during the final semester.

The MS-Plan A is primarily pursued by students who already have a research degree in a closely related field, for example, a PhD in mathematics. The MPH has additional requirements beyond those for the MS-Plan B, including an internship and coursework in all of the core areas of public health.

The PhD program (*section 11*) is designed so that students, with an MS in Biostatistics/Statistics, may complete all required PhD coursework in two years and start their dissertation during their second or third year. (Student with a Bachelor's degree who are admitted to the PhD program may complete all required PhD coursework in three years.) PhD students who have already taken all pre-recommended coursework will take semester courses in linear models, probability models, advanced statistics inference and Bayesian decision theory and then prepare during summer for the preliminary written exam that is given near the end of August. The following year is for biostatistics electives and the supporting program or minor. Students are encouraged to begin work on their dissertation after taking the preliminary PhD written exam.

7.3 ADVISING

The Division of Biostatistics and the School of Public Health provides advising that promotes collaboration among students, staff and faculty to enhance students' academic and professional development in the field of public health. The School's goal is educational and experiential excellence that prepares students for successful careers improving the health of populations.

The Division of Biostatistics and the School of Public Health is committed to creating and sustaining high quality advising in the following four areas:

- **Administrative Advising:** advising on course planning and scheduling, policies, procedures and benchmarks of the degree program/major, SPH, and the University. (In Biostatistics this is the Program Coordinator.)
- **Academic Advising:** general guidance on topics related to program/major including, but not limited to program focus (may include identifying appropriate course work options), project selection and career planning. (Academic advisors are assigned to new students at random and students may switch advisors at any time by contacting the Program Director/Director of Graduate Studies.)
- **Field Experience/Internship/Practicum Advising:** specific and targeted advising for field experience/internship/practicum development, placement and completion. A faculty advisor can assist a student as they select the type of field experience that would best match their goals. Careers Services staff can help a student to learn how to network with other students and alumni to explore possible field experiences sites.
- **Masters Project/Thesis/Plan A&B/Dissertation Advising:** specific and targeted direction on a master's project or a PhD dissertation including, but not limited to development, completion and in some cases publication. (MS students choose their project advisor for their Plan B project during the second year. This does not need to be the same person as their academic advisor. When PhD students choose their dissertation advisor, this faculty member also becomes their academic advisor.)

Students will be assigned to an advising team consisting of the program coordinator, faculty advisor, project advisor and program chair. All members of the team share responsibility for creating a successful advising relationship.

Advising Expectations for Students

Biostatistics students are expected to...

- Regularly read and respond to University email (ideally once per day); email is the official mode of communication at the University of Minnesota
- Review program objectives and educational documents at least once per semester, (i.e. Student Guidebook, etc.), or when directed by program coordinator or program chair; students are responsible for knowing the requirements of the degree program
- Actively contribute to a welcoming and supportive SPH climate
- Initiate meetings with advisor(s) at least once per semester; regularly communicate with faculty advisor(s) and/or program coordinator about program progress
- Respond to inquiries from faculty or staff in a timely manner (ideally within 5 – 7 business days)
- Behave in a professional and courteous manner; fulfill educational and advising commitments, such as appointments, project deadlines, etc.

Advising Expectations for Faculty

Faculty advisors are expected to...

- Refer advisee to Program Coordinator for course planning/scheduling, policy and procedural information
- Review program objectives and educational documents at least on an annual basis, (i.e. Student Guidebook, etc.), or when directed by Program Coordinator or Program Chair
- Actively contribute to a welcoming and supportive SPH climate
- Initiate meetings with advisee at least once per semester; regularly communicate with students on progress
- Respond to student inquiries in a timely manner (ideally within 5 – 7 business days)
- Provide reasonable office hours and/or appointments and be generally available to student inquiries; communicate with students about extended absences or travel
- Serve as a model and example of respectful behavior
- Provide referrals to school and university resources when appropriate (e.g. Student Mental Health Services)

7.4 INTERNSHIPS

A summer internship at the Centers for Disease Control, a medical or pharmaceutical company, or at a research institution, can be a valuable experience and a great help on a resume. MS students who find an internship usually hold the job during the summer after the first year.

Start looking early: The time to start looking for an internship for the summer after the first year is during the December-January break between semesters. The January issue of *Amstat News* lists internship opportunities, as does the following website: www.amstat.org/jobweb/index.cfm

Federal regulations apply to international students who wish to hold internships; see *section 7.6*.

7.5 SEMINARS

An advantage of being in a major research program like ours is the opportunity to learn what other top biostatisticians, from both academic and industry, are doing; divisional seminars provides such a venue. It is not necessarily about technical details, but also a big picture of the field, to which a student will devote their next many years of life. It also provides a chance to learn something one may not learn from class. As a biostatistician, a student needs a big toolbox, from which they will draw to apply in their future work; even with as many courses as provided in our full curriculum, the chance is still quite high that a lot of useful tools are not covered in our courses.

The Division of Biostatistics offers research seminar talks, usually on Wednesday afternoons at 3:30, preceded by a tea at 3:00. All students are strongly encouraged, and PhD students are required to attend, and are warmly welcomed to join the social tea. The schedule of seminars is at: <http://www.sph.umn.edu/academics/divisions/biostatistics/bioevents/seminars/>.

The School of Statistics also offers research seminars. Further information can be found at www.stat.umn.edu.

7.6 INTERNATIONAL STUDENT REQUIREMENTS

Document Check

Students must visit the International Student and Scholar Services (ISSS) office to have their documents checked upon arrival in the U.S. The ISSS has a web page of orientation information for international students at <http://www.iss.umn.edu/new/default.html>.

Health Insurance

The University of Minnesota requires all international students and their spouses and children to enroll in the Student Health Benefit Plan (SHBP) unless they are covered by a United States-based-employer-sponsored health plan or the Graduate Assistant Insurance Plan (GA Plan) provided by the University of Minnesota. If you have questions or need further information, please contact the Student Health Benefits Office (612.624.0627) located in room N323 at Boynton Health Service studins@bhs.umn.edu.

Spoken English Testing and English Proficiency

Students for whom English is a second language must demonstrate proficiency in spoken English. All Biostatistics students must have proficiency ELP rating of 1, 2 or 3. Proficiency is assessed in one of the following ways:

- English Language Proficiency (ELP) rating earned through coursework with the Center for Educational Innovation
- Speaking subscore of ibTOEFL(internet-based Test of English as a Foreign Language).
- SETTA (Spoken English Test for Teaching Assistants) test (TC campus).

More information can be found at <http://cei.umn.edu/courses-programs/international-teaching-assistant-program/schedule-setta>

It is best to confirm one's ELP rating during Fall Semester of the first year. Students who do not have a rating of 1, 2 or 3 must take the SETTA test or a course in Classroom Communication Skills. Students who do not have a 1, 2, or 3 proficiency rating will be considered less favorably for available Graduate Assistantships that occur during the year.

Maintain Full-Time Student Status

Students must register for at least 6 credits each semester. Under special conditions, they may apply for an exemption from the 6-credit rule at the ISSS office. Students must apply for the exemption before registering for fewer than 6 credits.

Notification of Changes

Students should immediately notify the Program Director/Director of Graduate Studies if their visa type changes or there is a change in their graduate assistantship. We will work with you to help solve any problems that arise.

Internships

Students who find an internship opportunity during their graduate program may apply with the ISSS to hold an internship under **Curricular Practical Training (CPT)**. The federal requirements are:

- Students must find a Biostatistics faculty member who will act as "sponsor." This faculty sponsor signs the ISSS application, and agrees to assess the student's work during the internship. The student and faculty sponsor should agree in advance on the terms of this assessment; a brief written report is usual.
- Students must register for PubH 8494 Biostatistics: Directed Research (1 credit), with the faculty sponsor.

There is another program called **Optional Practical Training (OPT)** that may be used after students have finished all requirements for their degree. As with CPT, a faculty sponsor and assessment are also needed for Optional Practical Training and the student needs to register for Grad 0999 (free, no-credit). However, a student who spends 12 months or more in full-time Curricular Practical Training is not eligible for Optional Practical Training. Please contact the ISSS for more details.

7.7 TEACHING ASSISTANT AND RESEARCH ASSISTANT POSITIONS

The Division of Biostatistics gives financial support in several ways, but mostly through graduate assistantships: Teaching Assistant (TA) or Research Assistant (RA) positions or a combination of both. Graduates use skills from both types of work, so there is an effort to assign each supported student to both at some time during their program. The Program Director/Director of Graduate Studies in consultation with the faculty makes TA and RA assignments.

Teaching Assistantship (TA)

Teaching assistants are usually assigned to one or two courses each semester, and are expected to work 10 hours each week (25% appointment) for each assigned course working one-on-one with students to answer questions, grading papers and exams, or helping in the computer lab.

Research Assistantship (RA)

Research assistants are assigned to research projects to work with data management and statistical analysis under the supervision of faculty and staff. Research assistants are expected to work 10 hours each week for a 25% appointment or 20 hours each week for a 50% appointment.

The levels of financial support depend on the highest academic degree held by the student: Level I for students with a BA or BS; Level II for students with an MA, MS, higher degree or students in the Biostatistics PhD program.

Should a Level 1 student earn a Master's degree during an appointment period as an RA or TA, the student's salary will increase at the start of the next pay period after the degree is conferred.

The following table summarizes the salary, benefits, and expectations for half-time (25%) and full-time (50%) support for the nine-month school year during the 2017-2018 academic year. Further details of benefits are at www1.umn.edu/ohr/gae/benefits/index.html

	Half-Time Support 25% Appointment	Full-Time Support 50% Appointment
Hours of Work Per Week	10 hours	20 hours
MS/PhD Tuition [14 credits/semester] *	50% tuition benefit, resident rate*	100% tuition benefit*
Medical Benefit	47.5% coverage	95% coverage
Minimum 9-Month Salary [Level I]	\$7,391	\$14,781
Minimum 9-Month Salary [Level II]	\$9,454	\$18,907

The maximum tuition benefit is defined by the Graduate School tuition plateau. For 2017-18 the tuition plateau cap will be \$8,364.00 per semester for a 50% appointment.

MPH students may calculate the tuition benefit with the following method:

- Multiply your actual appointment percentage times two to determine tuition benefit percentage
- Multiply the maximum tuition benefit by your calculated tuition benefit percentage
- Subtract this amount from your total tuition (number of registered credits times \$961 resident or \$1,262 nonresident tuition).

Example 1: 25% appointment

25%	(Appointment Percentage)
<u>X 2</u>	
50%	(Tuition Benefit Percentage)
\$8,364.00	(Maximum 2017-2018 Tuition Benefit)
<u>X 50%</u>	(Tuition Benefit Percentage)
\$4,182.00	(Tuition Benefit)
\$11,532.00	(12 cr. at \$961 SPH resident rate)
<u>- 4,182.00</u>	(Tuition benefit)
\$ 7,350.00	(Tuition billed to MPH student)

Example 2: 50% appointment

50%	(Appointment Percentage)
<u>X 2</u>	
100%	(Tuition Benefit Percentage)
\$8,364.00	(Maximum 2017-2018 Tuition Benefit)
<u>X 100%</u>	(Tuition Benefit Percentage)
\$8,364.00	(Tuition Benefit)
\$11,532.00	(12 cr. at \$961 SPH resident rate)
<u>- 8,364.00</u>	(Tuition benefit)
\$ 3,168.00	(Tuition billed to MPH student)

Dates of Employment for Graduate Assistantships

RA and TA positions actually start a week before classes begin in the fall, and continue a week after classes end in the spring. There is no official vacation in December. Under the University rules, all graduate assistants are expected to be present to work during the entire term they are employed, so this means that **vacation time must be negotiated in advance with the supervisor**. Here are the time periods when graduate assistants are employed:

	Start Date	End Date
Fall Semester 2017	August 28, 2017	January 10, 2018
Spring Semester 2018	January 11, 2018	May 27, 2018

Students who terminate a graduate assistantship before the contracted ending date will be required to "pay back" a prorated amount of tuition and health insurance.

Summer Support

TA positions do not continue during the summer. Summer support for RAs depends on research funding levels, so these are negotiated between the student and their supervisor. Summer RA/TA positions generally do not cover summer tuition costs.

Length of Financial Support

PhD students, who have completed their MS degree and make satisfactory progress (see section 11.5), will receive financial support for up to four years. All other students in the PhD program will be supported for a maximum of 5 years. If funding is available, we will support MS and MPH students for up to two years, as long as they make satisfactory progress (see section 8.5). Because future research funding is always uncertain and because of our increasing student body, we may not be able to promise this funding for future MS/MPH students. Students assigned a graduate assistantship will receive a letter of appointment before the appointment date (semester) describing their assignment. The Division cannot make a commitment to continue that assistantship longer than the payroll appointment letter outlines.

We try to help continuing students who did not receive support when they started the program, as long as they are making satisfactory progress.

Finding Other Assistantships

Students admitted to the MS or PhD programs without financial support are eligible to apply for any graduate assistantship within the University. All graduate assistants receive the benefits listed above, although salaries may differ. All graduate assistant openings are listed at www1.umn.edu/ohr/employment/index.html and <http://www.ahc.umn.edu/sphjobs/>.

7.8 STUDENT MAILBOXES

All division students have a mailbox and should check it frequently for information. Mailboxes are located in Mayo A446. This room is locked at all times. The combination to the door can be obtained from the Biostatistics Mayo staff (Megan Schlick or Sally Olander).

7.9 DIVISION TRAVEL POLICY FOR BIostatISTICS STUDENTS

The 2017-2018 Division policy for Biostatistics student travel is as follows:

1. All students giving a contributed invited, or poster presentation of their research at a conference (ENAR, JSM, etc.) will be eligible for up to \$700 in support.
- 2) For those who obtain external matching funds (say, an ENAR Student Travel Award, any of the JSM student travel awards sponsored by the various ASA sections, etc), the amount of expenses eligible for reimbursement will increase to \$1400. That is, we will continue to reward students who find other funding sources and get nice slots on the program with an increase in support. We will also permit such students to split this funding across more than one meeting -- say, using \$500 to supplement your ENAR travel and the remaining \$900 to supplement your JSM or other travel.

Please email all requests for approval to use these funds to interim Division Head, Wei Pan (panxx014@umn.edu) with a copy to Janet Bendickson (j-bend@umn.edu). Save your receipts so the Division of Biostatistics can process your reimbursement after you return. Upon the completion of your travel, please submit receipts to: biopurch@cbr.umn.edu.

8. BIostatistics MS Plan B Degree Program

8.1 BIostatistics MS Competency Statement

Biostatisticians are key collaborators in scientific research, providing expert advice on and direct involvement in study design, implementation, analysis, and communication. The Biostatistics program balances education in applied and theoretical biostatistics, mathematical statistics, and computing, all within the context of public health, medicine, and clinical translational research. Employers' requirements are periodically assessed by surveys of and informal discussions with alumni and their employers, and the curriculum is often modified as a result of that feedback. No biostatistics or statistics professional organizations have developed competency sets for graduate programs. Thus, the Biostatistics programs' competencies reflect the views of the faculty and alumni on the critical knowledge and skills needed by biostatisticians, as well as review of peer programs' curricula.

MS — Biostatistics	LEARNING EXPERIENCES																		
	PUBH 6020 Fundamentals of Social and Behavioral Science	PUBH 6101 Environmental Health	PUBH 6751 Principles of Management in Health Organizations	PUBH 7405 Biostatistics: Regression	PUBH 7406 Advanced Regression and Design	PUBH 6341 Epidemiological Methods I	PUBH 7420 Clinical Trials: Design, Implementation, and Analysis	PUBH 7430 Statistical Methods for Correlated Data	PUBH 7435 Latent Variable Measurement Models	PUBH 7440 Introduction to Bayesian Analysis	PUBH 7445 Statistics for Human Genetics and Molecular Biology	PUBH 7450 Survival Analysis	PUBH 7460 Advanced Statistical Computing	PUBH 7465 Biostatistics Consulting	PUBH 7470 Statistics for Translational and Clinical Research	PUBH 7475 Statistical Learning and Data Mining	STAT 5101 Theory of Statistics I	STAT 5102 Theory of Statistics II	
Use a general understanding of public health research, practice, and ethics to inform biostatistical practice.	X	X	X			X	X		X			X							
Collaborate in the design of research studies of human health and disease.				X	X		X					X							
Implement tabular and graphical displays of quantitative information in ways that are clear to non-statistical scientists.					X									X			X	X	
Draw inferences from quantitative data and communicates those inferences and their interpretation to non-statistical scientists.					X			X		X				X		X	X	X	
Write programs in two or more statistical packages.				X	X					X		X	X						
Address a public health or research question with statistical analysis and/or simulation study.					X	X	X	X			X				X				

8.2 REQUIREMENTS

Coursework

For the MS-Plan B program, students must complete 6 core courses and 4 elective courses with a GPA of 3.0, pass a comprehensive written exam, complete the Plan B project, and pass the final oral exam. All courses in the MS-Plan B program must be taken with the A/F grading option.

- Six core biostatistics courses: Regression (PubH 7405), Advanced Regression and Design (PubH 7406), Theory of Statistics I and II (Stat 5101, 5102; or Stat 8101, 8102), Survival Analysis (PubH 7450), and Clinical Trials, (PubH 7420).
- Three biostatistics electives (at least 8 credits total), usually taken during the second year.
- One health science elective (3 credits), usually taken during the first year.
- PubH 7494 Master's Project: Biostatistics (3 credits), taken while completing the Plan B project.
- Students who are not native speakers of English must show proficiency in spoken English; see section 7.6.

Standard MS-Plan B Course Schedule

Fall Semester – Year One

Course	Title	Credits
PubH 7405	Regression	4
Stat 5101 or Stat 8101	Theory of Statistics I (5101)* Theory of Statistics I (8101)*	4 3
<i>Varies</i>	<i>Health Science Elective</i>	3-4

Spring Semester – Year One

PubH 7406	Advanced Regression and Design	4
Stat 5102 or Stat 8102	Theory of Statistics II (5102)* Theory of Statistics II (8102)*	4 3
<i>Varies</i>	<i>Biostatistics Elective**</i>	2-4
<i>Comprehensive Written Exam to be taken after finals of Spring Semester</i>		

Fall Semester – Year Two

Course	Title	Cr
PubH 7450	Survival Analysis	3
<i>Varies</i>	<i>Biostatistics Elective**</i>	2-4
<i>Varies</i>	<i>Biostatistics Elective**</i>	2-4

Spring Semester – Year Two

PubH 7420	Clinical Trials	3
PubH 7494	Master's Project: Biostatistics	3
<i>Varies</i>	<i>Biostatistics Elective**</i>	2-4

* CHOOSING BETWEEN STAT 5101-5102 AND STAT 8101-8102: Student may take either the theory sequence Stat 5101-5102 or the theory sequence Stat 8101-8102. Students should consider taking Stat 8101-8102 if they have a strong background in mathematics and especially if they are considering going on for a PhD in Biostatistics.

** Biostat Electives: Students are required to complete 3 Biostatistics elective courses (at least 8 credits). There are several opportunities in the standard MS curriculum for students to register for these courses.

Accelerated (1.5 year) MS-Plan B Course Schedule

For highly motivated students, the existing Biostatistics MS program can be completed in 1.5 years. If a student selects this option, the student should discuss their curriculum plan with their academic advisor and program coordinator.

Fall Semester – Year One

Course	Title	Credits
PubH 7405	Regression	4
Stat 5101 or Stat 8101	Theory of Statistics I (5101)* Theory of Statistics I (8101)*	4 3
<i>Varies</i>	<i>Biostatistics Elective**</i>	<i>1-4</i>
<i>Varies</i>	<i>Health Science Elective***</i>	<i>2-4</i>

Spring Semester – Year One

PubH 7406	Advanced Regression and Design	4
Stat 5102 or Stat 8102	Theory of Statistics II (5102)* Theory of Statistics II (8102)*	4 3
PubH 7420	Clinical Trials	3
<i>Varies</i>	<i>Biostatistics Elective**</i>	<i>2-4</i>
Comprehensive Written Exam to be taken after finals of Spring Semester		

Summer between Years 1 and 2 (optional registration opportunity)

<i>Varies</i>	<i>Health Science Elective***</i>	<i>3-4</i>
PubH 7494	Master's Project: Biostatistics****	3

Fall Semester – Year Two

Course	Title	Cr
PubH 7450	Survival Analysis	3
<i>PubH 7494</i>	<i>Master's Project (if not registered during the summer)</i>	<i>3</i>
<i>Varies</i>	<i>Biostatistics Elective**</i>	<i>2-4</i>
<i>Varies</i>	<i>Biostatistics Elective**</i>	<i>2-4</i>

* CHOOSING BETWEEN STAT 5101-5102 AND STAT 8101-8102: Student may take either the theory sequence Stat 5101-5102 or the theory sequence Stat 8101-8102. Students should consider taking Stat 8101-8102 if they have a strong background in mathematics and especially if they are considering going on for a PhD in Biostatistics.

** Biostat Electives: Students are required to complete 3 Biostatistics elective courses (at least 8 credits). There are several opportunities in the standard MS curriculum for students to register for these courses.

*** The Health Science Elective could be taken online during the summer.

**** The Plan B could be started during the summer.

Biostatistics Electives

Students need **three** biostatistics elective courses (at least 8 credits) chosen from the list below. The courses are grouped into topics, but students may choose any three courses. To use a course not listed below for a biostatistics elective, a students will need approval from their advisor and the Program Director/Director of Graduate Studies *before* registering for the course.

Biostatistical Methods

Course	Title	Credits
PubH 7430	Statistical Methods for Correlated Data	3
PubH 7440	Introduction to Bayesian Data Analysis	3
PubH 7445/8445	Statistics in Genetics and Molecular Biology	3
PubH 7460	Advanced Statistical Computing	3
PubH 7461	Exploring and Visualizing Data in R	2
PubH 7462	Exploring and Visualizing Data in R	2
PubH 7465	Biostatistics Consulting	3
PubH 7470	Statistics for Translational and Clinical Research	3
PubH 7475/8475	Statistical Learning and Data Mining	3
PubH 8422	Modern Non-parametrics (<i>requires PhD level prerequisites</i>)	3
Stat 5401	Applied Multivariate Methods	3
Stat 5601	Nonparametric Methods	3

Preparation for the Biostatistics PhD Program [see section 8.4]

Math 5615H	Honors: Introduction to Analysis I	4
Math 5616H	Honors: Introduction to Analysis II	4

Spatial Statistics and Related Software

PubH 8472	Spatial Biostatistics (<i>requires PhD level prerequisites</i>)	3
GIS 5571	Introduction to Arc/Info	3
Geog 5561	Principles of Geographic Information Science	4

Technical Writing in English for Non-native Speakers

Writ 5051	Research Writing Practice for Non-native Speakers	3
Writ 5052	Research Presentations and Conference Writing for Non-native Speakers of English	3

Health Science Electives

Students need at least 3 credits from the list below. To use a course not listed below for a health science elective, students need approval from their advisor and the Program Director/Director of Graduate Studies *before* registering for the course.

Epidemiology

Course	Title	Credits
PubH 6341	Epidemiologic Methods I	3
PubH 6320	Fundamentals of Epidemiology	3

Statistical Genetics and Genomics

CSci 5481	Computational Techniques for Genomics	3
PBio 5301	Plant Genomics	3
PSY 5137	Introduction to Behavioral Genetics	3
PubH 6381	Genetics in Public Health	2

Administration

PubH 6751	Principles of Management in Health Services Organizations	2
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Behavioral Science

PubH 6020	Fundamentals of Social and Behavioral Science	3
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Environmental Health

PubH 6101	Environmental Health	2
PubH 6102	Issues in Environmental and Occupational Health	2

Minor Field

A *minor field* is optional, with extra requirements. Students must complete 6 or more credits in a single field outside biostatistics and need approval from the Program Director/Director of Graduate Studies in the minor field.

Transferring Credits

Coursework from other institutions or programs may be transferred to the Biostatistics MS program with approval from the student's advisor and the Program Director/Director of Graduate Studies. No more than 40% of the credits on a student's degree plan may be transferred. Rules for transferring courses are given in the online Graduate Education Catalog at <http://www.policy.umn.edu/Policies/Education/Education/GRADCREDITDEGREE.html>. The Petition Form can be found at: <http://policy.umn.edu/forms/otr/otr190.pdf>.

Registration Requirement and Student Status

MS students must register for at least six credits each semester to be certified by the Office of the Registrar as a full time Graduate School student. Full-time status is required to hold a graduate assistantship.

Students should maintain active student status from the beginning of their program until they graduate. To maintain active student status, you must register every fall and spring semester. Students who have completed all required courses may register for Grad 0999, which is free, zero-credit, non-graded and fulfills the registration requirement. See <https://onestop.umn.edu/academics/special-registration-categories-graduate-and-professional-students>

Students who do not register for one semester lose their student status with the Graduate School. To regain student status, they must reapply; see <http://www.isph.umn.edu/wp-content/uploads/2014/01/Change-of-Status-Request.pdf> for details.

8.3 WRITTEN EXAMINATION

The written examination is given in May one week after spring semester final exams. The written exam covers material from the two methods courses, (PubH 7405-7406) and the two statistical theory courses (Stat 5101-5102, for which Stat 8101-8102 is also more than adequate). Students are expected to take the exam the first time it is given after the student completes these courses. Students who are expected to take the exam but do not, will be officially recorded as failing the written exam. Exemptions can only be granted by the academic advisor and the Program Director/Director of Graduate Studies, in consultation with the Division Head. To help students prepare, previous years' written exams and answer keys are available for review and photocopying in the Division office.

The written exam is a three-hour, closed book exam. Students are issued hand calculators for the exam and may not use their own calculator. Students are assigned individual code letters when the test is given, and only this code appears on the student's test. Each test is scored independently by two faculty. Faculty meet within two weeks after the exam to decide the passing score, which takes into account the difficulty of the exam relative to previous years' exams. Only after the passing score is set are the faculty unblinded to which student had which code letter. Academic advisors inform students whether or not they passed the exam. Faculty do not reveal scores or score rankings to the students. The exam's answers are made available to students after the passing score is set. Students may request additional information on their exam performance from their academic advisor.

Students have two chances to pass the exam. If they do not pass the first time, they must take the exam one year later. A student who fails on the second try or does not take the exam will not be allowed to continue in the MS program.

8.4 GRADUATE DEGREE PLAN

In January of a student's final term (or at least twelve weeks before their final oral exam) students must file a Graduate Degree Plan with the Program Coordinator. You may complete and print this form online at <http://policy.umn.edu/forms/otr/otr198.pdf>. This form collects all the required coursework for the MS degree, both courses completed and those not yet taken. This should be a *minimal set* of courses that meet the requirements. By the time you are ready to graduate, the minimal set of courses listed must appear on your transcript; you do not need to list all courses you have taken. To revise the list of courses, you need to file a *Graduate School Petition Form* (<http://policy.umn.edu/forms/otr/otr190.pdf>).

8.5 TRANSFERRING FROM THE MS TO THE PHD PROGRAM

Students who are enrolled in the MS program and who wish to continue to the PhD program must apply through the SOPHAS application process. Students should refer to the School of Public Health admissions website for the most up to date application process (<http://www.sph.umn.edu/admissions/application-process/>).

1. Discuss plans with their academic advisor and the Program Director/Director of Graduate Studies during their first year or after the Masters written examination.
2. Take the prerequisite, *Math 5615H Real Analysis I* (or *MATH 4603* for those students who have had no exposure to *Real Analysis*) during fall semester of year two.
3. There are 2 application processes a student can choose depending on how early one submits an application. Both application processes are through SOPHAS.
 - First application option, a student can submit their application as early as July 15 (one entire year before beginning the PhD program). If an applicant chooses this process, their original MS application information is still available in SOPHAS. The applicant will need to have 2 letters of recommendation from Biostat faculty submitted with their application by July 15. Letter writers will have the opportunity to update their recommendations during fall semester, when the file will be reviewed. A third letter of recommendation, from the Math 5615/Math 4603 instructor (see below), should be submitted directly to the Division of Biostatistics during fall semester. Please note: the admissions committee will not review the application until early fall once the applicant has confirmed all updated materials have been received by the Division of Biostatistics.
 - A second application option, a student can begin a new application in SOPHAS and submit a complete application to SOPHAS by December 1.
4. For either application process, applicants are encouraged to submit a recommendation letter from the Math 5615/Math 4603 instructor and at least one from a Biostatistics faculty member. Applicant also needs to write a one-page statement of purpose explaining why they want to earn a doctorate degree in Biostatistics.
5. For students working towards an MS degree: if a student's PhD application states that they plan to finish their MS degree, it is important that they do so before the first semester after admission to the PhD program. This includes specifically finishing the Plan B project before the start of the fall semester of the PhD study. If the student does not complete the MS program by that time, they may forfeit chances of having a graduate assistantship until completion of all MS requirements.

If students have additional questions, they are encouraged to talk with the Biostatistics Program Coordinator.

8.6 SATISFACTORY PROGRESS IN THE MS PROGRAM

Students are expected to advance steadily towards graduation, which is called making "satisfactory progress." To make satisfactory progress in the MS program, students should:

- Register for courses every fall and spring semester until course requirements are completed. Students with graduate assistantships must register for at least 6 credits to maintain their full-time status, or lose their assistantship.
- Maintain a GPA of at least 3.0 in the MS core courses and the MS required elective courses, and make up all grades of I (incomplete) within one year.
- Take the written exam the first time it is given after the student completes PubH 7405-7406 and Stat 5101-5102 (or Stat 8101-8102). Students who are expected to take the exam but do not will be officially recorded as failing the written exam. Exemptions can only be granted by the academic advisor and the Program Director/Director of Graduate Studies, in consultation with the Division Head.
- File a Degree Program plan early in spring semester of year two; see section 8.3.
- Complete the Plan B project and pass the final oral examination within one semester of completing all required coursework.

In June, current students receive a letter from their academic advisor assessing their progress, and explaining any unfulfilled requirements for satisfactory progress.

If a student needs an exemption from these requirements, they must make a written request to both their academic advisor and the Program Director/Director of Graduate Studies. The request must include a written plan for finishing the MS program.

Students who fail to make satisfactory progress will be asked to meet with their academic advisor and the Program Director/DGS, to discuss the requirements for continuing in the program. These requirements and the time limit for fulfilling them will be given to the student in writing. If the requirements are not met within the deadline, the graduate faculty will vote to decide whether to dismiss the student from the program.

8.7 THE PLAN B PROJECT AND GRADUATING

The Plan B project should involve a combined total of approximately 120 hours (the equivalent of three full-time weeks) of work. Common topics for Plan B projects include application and assessment of new methodology, a novel analysis of an interesting dataset, or a simulation study to compare statistical methods. As examples, written projects from previous students are in the Biostatistics Reading Room.

In Biostatistics, there are three requirements for the Plan B project:

1. A written report, with a review of the relevant biostatistical literature, technical explanation of the biostatistical method, and a clear exposition of the scientific background relevant to any data used. Computer code written for the project should be listed in an appendix, and carefully documented. The student should do all work on the project.
2. A 25-minute oral presentation of the project at a seminar, followed immediately by a final oral examination by the committee listed on the Graduate Degree Plan. The seminar is open to the public; the oral exam is not.
3. Students must register for PubH 7494 – *Master's Project: Biostatistics*, for a total of 3 credits with the S/N grading option. This course is not included on the official Graduate Degree Plan. If a student must use their own money for these credits, please see the Program Director/Director of Graduate Studies before registering.

From start to finish (graduation), the Plan B project requires at least six weeks, and many students take four or five months to complete their project. Below is a list of steps in carrying out a Plan B project. If necessary, some steps can be finished quickly, but some cannot be rushed. A fixed deadline is that *students must give a complete final copy of their project, approved by their Plan B project advisor, to their oral examination committee two weeks before the seminar and final oral exam*. The student's Plan B project advisor decides when the written project is ready to give to the committee and this may take longer than many students expect. A student may find them self in a difficult situation if they accept a job with a fixed starting date before their advisor says they are ready to schedule their seminar and final oral exam. Here is a suggested timeline:

During Fall Semester of Year Two:

MS students are required to submit numerous on-line forms to the Graduate School to report details about their degree coursework, examining committee members, and to obtain approvals at each step. It is important to initiate the required forms far enough in advance to allow time for automated routing for approvals and allow for delays. The Graduate Student Services and Progress office will not allow students to defend the master's project until all required forms have been submitted and approved.

1. Find a **Plan B project advisor** and a topic.

The Plan B project advisor is a member of the Biostatistics faculty with Graduate Education Responsibilities who is responsible for supervising the student's work, and approving the scope and content of the student's project. Students may choose their academic advisor as their project advisor, or they may choose another Biostatistics faculty member.

Another possibility is for the student to work on their project with a faculty member in a health science field outside Biostatistics, supervised by their Plan B project advisor in Biostatistics. This outside advisor would normally be a member of the final oral examination committee. In order to serve on this committee, the outside advisor must be listed as a Faculty member with Graduate Education Responsibilities with the Graduate School (https://apps.asr.umn.edu/faculty_roles/); please see the Program Coordinator to check on this. If they are not listed as a Faculty with Graduate Education Responsibilities, they will not be able to serve on a Biostatistics student's final oral examination committee.

2. **Final oral examination committee.** This is the student's Plan B committee, and the committee must have a minimum of 3 members; 2 members of the Biostatistics faculty including the student's academic advisor and 1 faculty member from outside Biostatistics. All committee members must be listed as a Faculty with Graduate Education Responsibilities with the Graduate School (https://apps.asr.umn.edu/faculty_roles/). Typically the committee is made up of the Plan B advisor/committee chair, the academic advisor (or some other Biostatistics faculty when the Plan B advisor is also the academic advisor), and a non-biostatistics faculty member whom the student had as a professor for a class or who has some relationship with the project.

For students declaring a minor, a faculty member from the minor department must be included and will fulfill the external member requirement.

During Spring Semester of Year Two, or about two months before graduation:

3. In early January (or 3 months before your planned graduation) file a Graduate Degree Plan with the Program Coordinator. You may complete and print this form online at <http://policy.umn.edu/forms/otr/otr198.pdf>.
4. Once a student's Graduate Degree Plan is approved by the Graduate School, a student can inform the Graduate Student Services and Progress office of the student's committee membership. This is submitted online at <http://www.grad.umn.edu/students/assignmasterscommittee/index.html>.
5. Complete a first draft of the project and submit to the project advisor. For the format of the written project, please see recent students' projects in the Biostatistics Reading Room (Mayo A460). Students may need to revise this draft several times. The Plan B project advisor decides when a student's written project is close enough to finished, and then gives the student permission to schedule the seminar and final oral examination.
6. Most students complete their projects and their final oral examination during spring semester of their second year or during the summer following this. If the project takes longer and the final oral examination will be scheduled during fall semester of your third year, then the student must register for fall semester to maintain active student status. If a student loses active student status they will not be able to graduate until they reapply and pay the application fee. If a student is not taking any courses, they should register for Grad 0999, which is free, zero-credit, non-graded and fulfills the registration requirement.

7. Download the Graduation Packet from the Graduate Student Services and Progress office (<https://apps.grad.umn.edu/secure/gradpacket/>). A student must have an approved Graduate Degree Plan and approved final exam committee on file before the Graduate Student Services and Progress office will release the Graduation Packet. The student should make sure that all the courses listed on the Graduate Degree Plan and your final oral examination committee is correct. If the student has taken different courses than originally listed on their Graduate Degree Plan, then they must file a Graduate School Petition Form to update the original Degree Program.

The Graduation Packet contains all the forms and instructions a student will need to finish including: Graduation Instructions, the *Final Examination Report*, and the process for completing the Application for Degree.

The Final Oral Examination and Graduation

The Graduate School awards degrees administratively every month. The earliest a student can graduate is at the end of the month of the student's seminar and final oral examination. Here are the final steps to finish:

8. **Before the first day of the month in which a student wants to graduate:** Complete the Application for Degree process via MyU (<https://www.grad.umn.edu/current-students-graduate-student-services-progress/application-degree>).
9. When a student completes the Application for Degree process, the Graduate Student Services and Progress staff will check the student's *Graduate Degree Plan*. If the Graduate Student Services and Progress staff find that a student has not taken a course listed on the *Graduate Degree Plan*, then the student will not be able to graduate until the student files a *Graduate School Petition Form* (<http://policy.umn.edu/forms/otr/otr190.pdf>) to correct the *Graduate Degree Plan*. All Graduate School requirements for the MS must be completed by the last working day of the month a student intends to graduate.
10. The student needs to choose a date and time for the final presentation with their committee. Inform Megan Schlick (in A460 Mayo) of this date once confirmed with the committee. Megan will arrange a room for the presentation, as well as coordinate paperwork for the exit interview with the Division Head. This exit interview is a way for you to give comments on the Biostatistics program.
11. **Two weeks before the student's seminar and final oral examination:** The student should give a complete final copy of their project, approved by their Plan B project advisor, and to each member of their oral examination committee.
12. **At the student's seminar and final oral examination:** The student should bring the *Final Examination Report* and a current copy of their transcript to the seminar and final oral examination. The Division will serve coffee and tea, and the student may bring cookies or treats.
13. **After a student passes the final oral exam:** The student's committee will sign the *Final Examination Report* after successful completion of the final oral exam. The student should take the signed report to the Graduate Student Services and Progress office in 333 Robert H. Bruininks Hall.
14. The student will need to make all revisions in their written project that were required by their committee. When the student's Plan B project advisor accepts the revisions, the student should bring a copy of the completed Plan B written project to the Biostatistics office in Mayo A460. The Plan B paper should be unbound - no staples, punched holes, or report covers.
15. If a student wishes to attend a commencement ceremony, the School of Public Health holds commencement every May.
16. Students must complete the School of Public Health Alumni Survey at: <https://secure.ahc.umn.edu/PublicHealth/careersurvey>.
17. Finally, the Biostatistics office will give all graduating student an *Alumni Information* form. Students are asked to fill out the contact information so we can keep in touch. Students should copy any files from their biostat network computer account, and return any Reading Room materials. Students must also return all University keys to the Biostatistics Division office.

9. BIOSTATISTICS MS PLAN A DEGREE PROGRAM

The Plan A Master's program requires that a student complete at least 20 credits with a GPA of 3.0, pass the MS written exam (see *section 8.2*), complete the thesis project and pass the final oral exam.

The required courses for the MS Degree Plan B do not prepare a student to write a thesis, that is, to do original research in biostatistics methodology. This is why nearly all students choose to do a written project (Plan B) rather than a thesis. Only students with an advanced background in mathematics or theoretical statistics should consider Plan A.

Please consult <http://policy.umn.edu/education/masterscompletion> for detailed rules imposed by the Graduate School on the Plan A MS program. Here is a brief outline: Guided by the advisor and with the agreement of the Program Director/Director of Graduate Studies, the student selects at least 20 semester credits with at least 14 semester credits in biostatistics courses and at least 6 semester credits in a minor area or coordinated/related fields. All credits included in the official Graduate Degree Plan must be in graduate-level courses. A 3.00 minimum GPA must be maintained for all courses in the program. Students are expected to make satisfactory progress toward graduation; see *section 8.5*. Students who are not native-speakers of English must demonstrate proficiency in spoken English; see *section 7.6*.

The student must pass the MS written exam (see *section 8.2*) before starting the thesis under the guidance of the advisor. Students must also register for a minimum of 10 master's thesis credits (PubH 8777), but these cannot be used to meet course credit requirements. There is a final oral exam that consists of a defense of the thesis. A final copy of the thesis should be given to the Biostatistics office and the Graduate Student Services and Progress office.

10. BIOSTATISTICS MPH DEGREE PROGRAM

The Biostatistics MPH program require that students meet the Association of Schools of Public Health (ASPH) Core Competencies in five core public health areas, including administration, behavioral science, Biostatistics, environmental health, and epidemiology, plus an additional requirement in ethics. These competencies are met through the SPH core courses.

The Master of Public Health (MPH) program has different course requirements than the MS plan B. In place of the four elective courses (1 in health science and 3 in Biostatistics) which are required in the MS Plan B, the MPH requires five public health courses (1 taken from each public health core area listed below). The MPH program also requires students to complete a field experience (similar to an internship) **in addition** to a written master's project like the MS Plan B written project. Unlike the MS Plan B, the MPH does not have a comprehensive written exam requirement.

10.1 BIOSTATISTICS MPH COMPETENCY STATEMENT

Biostatisticians are key collaborators in scientific research, providing expert advice on and direct involvement in study design, implementation, analysis, and communication. The Biostatistics program balances education in applied and theoretical biostatistics, mathematical statistics, and computing, all within the context of public health, medicine, and clinical translational research. Employers' requirements are periodically assessed by surveys of and informal discussions with alumni and their employers, and the curriculum is often modified as a result of that feedback. No biostatistics or statistics professional organizations have developed competency sets for graduate programs. Thus, the Biostatistics programs' competencies reflect the views of the faculty and alumni on the critical knowledge and skills needed by biostatisticians, as well as review of peer programs' curricula.

MPH — Biostatistics	LEARNING EXPERIENCES																	
	PUBH 6020 Fundamentals of Social and Behavioral Science	PUBH 6101 Environmental Health	PUBH 6751 Principles of Management in Health Organizations	PUBH 7405 Biostat Regression	PUBH 7406 Advanced Regression and Design	PUBH 6341 Epi Methods I	PUBH 7420 Clinical Trials: Design, Implementation, and Analysis	PUBH 7430 Statistical Methods for Correlated Data	PUBH 7435 Latent Variable Measurement Models	PUBH 7440 Introduction to Bayesian Analysis	PUBH 7445 Statistics for Human Genetics and Molecular Biology	PUBH 7450 Survival Analysis	PUBH 7460 Adv. Stat Computing	PUBH 7465 Biostat Consulting	PUBH 7470 Stat for Translational and Clinical Research	PUBH 7475 Statistical Learning and Data Mining	STAT 5101 Theory of Statistics I	STAT 5102 Theory of Statistics II
Use a general understanding of public health research, practice, and ethics to inform biostatistical practice.	X	X	X			X	X		X			X						
Collaborate in the design of research studies of human health and disease.				X	X	X						X						
Implement tabular and graphical displays of quantitative information in ways that are clear to non-statistical scientists.					X								X				X	X
Draw inferences from quantitative data and communicates those inferences and their interpretation to non-statistical scientists.					X			X		X			X			X	X	X
Write programs in two or more statistical packages.				X	X					X		X	X					
Address a public health or research question with statistical analysis and/or simulation study.					X	X	X	X			X				X			

10.2 REQUIREMENTS

For the MPH program, you must complete 6 core biostat courses, 5 SPH core courses with a GPA of 3.0, complete a Fieldwork Experience, complete the written project, and pass the final oral exam.

MPH students must complete a minimum of 42 credits, including the required courses shown below. Additional credits needed to total 42 may be taken from any of the following: graduate-level courses related to Biostatistics, Statistics, or Public Health (including University of Minnesota minor degrees), PubH 7494 (Master's Project), and PubH 7496 (Field Experience).

- Six core biostatistics courses (20-22 credits): Regression (PubH 7405), Advanced Regression and Design (PubH 7406), Theory of Statistics I and II (Stat 5101, 5102), Survival Analysis (PubH 7450), and Clinical Trials, (PubH 7420).
- Five public health core courses (11-13 credits): Administration (PubH 6751), Behavioral Science (PubH 6020), Environmental Health (PubH 6101 or 6102), Epidemiology (PubH 6320 or 6341), Ethics (PubH 6741 or 6742).
- Complete a formal, supervised fieldwork experience consisting of at least 90 hours.
- Students who are not native speakers of English must show proficiency in spoken English; see section 7.6.

Suggested MPH Course Schedule

Fall Semester – Year One

Course	Title	Credits
PubH 7405	Regression	4
* Stat 5101	Theory of Statistics I	4
<i>Varies</i>	<i>SPH Core Course</i>	<i>1-4</i>

Spring Semester – Year One

PubH 7406	Advanced Regression and Design	4
* Stat 5102	Theory of Statistics II	4
<i>Varies</i>	<i>SPH Core Course</i>	<i>1-4</i>

Fall Semester – Year Two

Course	Title	Cr
PubH 7450	Survival Analysis	3
<i>Varies</i>	<i>SPH Core Course</i>	<i>1-4</i>
<i>Varies</i>	<i>SPH Core Course</i>	<i>1-4</i>

Spring Semester – Year Two

PubH 7420	Clinical Trials	3
<i>Varies</i>	<i>SPH Core Course</i>	<i>1-4</i>
<i>Varies</i>	<i>Remaining coursework to fulfill the 42 credit requirement</i>	<i>1-4</i>

Public Health Core Courses [11-13 credit hours]

Administration [one course]		
PubH 6751	Principles of Management in Health Services Organizations	2
Behavioral Science		
PubH 6020	Fundamentals of Social and Behavioral Science	3
Environmental Health [one course]		
PubH 6101 or PubH 6102	Environmental Health Issues in Environmental and Occupational Health	2 2
Epidemiology [one course]		
PubH 6320 or PubH 6341	Fundamentals of Epidemiology Epidemiological Methods I	3 3
Ethics [one course]		
PubH 6741 or PubH 6742	Ethics in Public Health: Professional Practice and Policy Ethics in Public Health: Research and Policy	1 1

10.3 OTHER MPH DEGREE REQUIREMENTS

Public Health Core Area Requirements

Students working towards an MPH degree must satisfy competency requirements in the six core areas of public health – administration, behavioral science, biostatistics, environmental health, epidemiology, and ethics. This is accomplished by satisfactorily passing (with a grade of B- or better) the chosen public health courses described in section 10.1.

The Public Health core area requirements can also be satisfied by:

- Pass an equivalency exam in the core area. Examinations are given twice each year prior to Fall and Spring Semesters. Equivalency exams satisfy competency requirements for the following core courses only:
 - PubH 6751 Principles of Management in Health Services Organizations
 - PubH 6020 Fundamental of Social and Behavioral Science
 - PubH 6101 Environmental Health
 - PubH 6320 Fundamentals of Epidemiology
 - PubH 6741 Ethics in Public Health: Professional Practice and Policy
- OR**
- Pass an advanced course in the core area as approved by the respective Program Director and the Educational Policy Committee,
- OR**
- Complete a graduate level course, with a grade of B or better, at an accredited university or college that meets the competencies defined by CEPH. The Educational Policy Committee, upon petition of the student, will determine acceptance of a course for transfer.

Registration Requirement

Students are required to register for at least 2 semesters and 15 credits in the School of Public Health.

Course Numbers and Graduate Credit

5xxx, 6xxx, and 8xxx-level courses are considered graduate-level. 1xxx and 3xxx-level courses are for undergraduates and will not receive approval for graduate credit. Under some circumstances – with approval of the student's Program Director – 4xxx, and 7xxx-level courses may also be applied toward a MPH degree as long as they are taught by a member of the graduate faculty.

SPH Grading Policies

Grade Point Average

Students must achieve a grade point average of no less than 3.0 (B) across their entire program to receive an MPH degree.

S-N Grade Option

MPH students may take no more than 20% of their coursework on an S-N grading basis, exclusive of those topics, seminars, and field experience courses offered only on an S-N basis.

Public Health Core Courses

Courses designated as part of the public health core must be taken for a letter grade (A-F). Students will be required to achieve no less than a B- grade in each course taken on an A-F basis. Students may retake public health core courses at their own expense until they achieve a grade of B- or better. However, a retaken course may be counted only once toward degree requirements in the student's study plan.

Each public health major may require higher levels of achievement for its own students in public health core courses that are also core to the major. This may include restrictions on retaking public health core courses that are also core to the major, or requiring more than a B- performance level. Students should consult their Program Coordinator for documentation of these requirements.

Note: Students should refer to *section 5.4* for information on the University's uniform grading policy.

Field Experience

All students matriculating in a MPH program must complete a formal, supervised fieldwork experience consisting of at least 90 hours in order to graduate. Neither prior professional degrees nor prior work experience in a field not closely related to the MPH degree program are sufficient grounds for waiving the fieldwork requirement.

Each major has established requirements for completion of fieldwork. These requirements include criteria for type of experience, site selection, and preceptor; how students should initiate and arrange the fieldwork; role of faculty supervisor; method of evaluation; and credit and course enrollment. Fieldwork requirements can take whatever form is deemed appropriate to the major, including internships, master's projects completed in a practice setting, or coursework with significant field or community work done under the guidance of a community preceptor. Guidelines for Biostatistics are found at http://sph.umn.edu/site/docs/biostats/Biostats-MPH_Practicum.pdf.

All students must complete a Fieldwork experience module prior to beginning the experience. The online agreement provides streamlined, comprehensive for the student, their preceptors, and faculty advisor. Please refer to the current student Web site for this and other resources related to the field experience <http://www.sph.umn.edu/careers/fe/>. Similarly, an evaluation of the field experience by both the preceptor and the student must be completed prior to receiving a satisfactory grade.

MPH Study Plan

Students are required to submit a completed MPH Study Plan (http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf) to their Program Coordinator at least one semester prior to their anticipated completion of coursework. Earlier submission (e.g. in the second to last semester) is suggested to allow the Program Coordinators to review the study plan and notify students if they are missing any requirements prior to their last term of study.

Master's Project

Students must complete a master's project, demonstrating familiarity with the tools of research or scholarship in the major, the capacity to work independently, and the ability to present the results of the investigation effectively. The master's project should involve a combined total of approximately 120 hours (the equivalent of three full-time weeks) of work. See section 8.6 for a description of the project as it is the same as the MS Plan B project.

Satisfactory Progress

Students are expected to advance steadily towards graduation, which is called making "satisfactory progress." To make satisfactory progress in the MPH program, students should:

- Register for courses every fall and spring semester until course requirements are completed. Students with graduate assistantships must register for at least 6 credits, or lose their assistantship.
- Maintain a GPA of at least 3.0 in the Biostatistics core courses, the MPH core courses, and additional courses to reach the 42 credit minimum, and up all grades of I (incomplete) within one year.
- Complete the Master's project and pass the final oral examination within one semester of completing all required coursework.

In June, current students receive a letter from their academic advisor assessing their progress, and explaining any unfulfilled requirements for satisfactory progress.

If you need an exemption from these requirements, you must make a written request to both your academic advisor and the MPH Program Director. Your request must include a written plan for finishing the MPH program.

Students who fail to make satisfactory progress will be asked to meet with their academic advisor and the MPH Program Director, to discuss the requirements for continuing in the program. These requirements and the time limit for fulfilling them will be given to the student in writing. If the requirements are not met within the deadline, the graduate faculty will vote to decide whether to dismiss the student from the program.

Time Frame

The maximum time allowed by the School of Public Health for completion of an MPH degree is seven years. The seven year period begins with the first term of enrollment after admission to a degree program within the School.

Course Transfer Credits

Students must complete credit requirement as specified by the individual major with a minimum of 42 credits. Effective with students entering the program in fall 2007, a student may seek transfer of no more than 40% of their total graduate or professional program credits taken at the University of Minnesota or at another college or university prior to the SPH program matriculation. Course credits may be used to satisfy public health core or other program requirements as jointly approved by the Program Director and the Senior Associate Dean for Academic Affairs. No course credits older than 5 years from the date of the student's matriculation will be accepted for transfer. A grade of "B-" or better is required for each course requested for transfer credit.

SPH students who have completed graduate-level coursework at the University of Minnesota or another college or university may petition to transfer those courses toward their SPH degree. To be considered for transfer, graduate level coursework must have been taken at an accredited graduate institution.

Students must:

1. Meet with their academic advisor to discuss the petitioning process. If the petition is acceptable to the advisor, the student will complete and sign the *Petition* form, and attach an official transcript on which the final grade has been posted.
2. Submit the *Petition* form to the Program Coordinator for processing. The *Petition* form can be found at <http://policy.umn.edu/forms/otr/otr172.pdf>.

The Program Coordinator will forward the petition to the MPH Program Director for approval and signature and then to the Student Services Center for the Senior Associate Dean for Academic Affairs for final evaluation and/or approval.

Students admitted to the Public Health Certificate in Core Concepts program are considered officially enrolled in the School of Public Health (SPH). While successful completion of the Certificate program does not entitle recipients to future admission to SPH degree programs, recipients are free to apply to degree programs upon completion of the Certificate. Should they be admitted to an MPH major, the 15 credits qualifying for the Certificate will be accepted as fulfilling the public health core requirements, and do not count as transfer credits.

Course Substitutions and Waivers

All student requests that deviate from the degree curriculum requirements outlined in this Guidebook must be made on a *Petition* form. The *Petition* form can be obtained from the SPH Student Services Center or Program Coordinator.

NOTE: the process for approving a course substitution or waiver could take up to one month, so plan accordingly.

Course Substitution Procedures:

The following process should be followed when requesting that a course substitute for a required course in your degree program.

1. Gather the course syllabi of the required course in your degree program and the proposed substitute course and a transcript on which the proposed course grade has been posted (if the proposed course has already been completed).
2. Complete the *Petition* form with the following information in each section:
 - REQUEST SECTION: describe the course requested for substitution including the course title, number of credits, term and year taken, and the name of the institution where the course was taken. Also list the course/requirement in your degree program for which you are asking for the substitution.
 - REASON/EXPLANATION SECTION: Indicate what skills and/or content overlaps between the required course(s) and the proposed substitute course(s).
3. Compile the above materials and have the request reviewed by your advisor. He/she will complete the Department section of the *Petition* form and indicate whether or not they approve of the request.
4. After the advisor has made his/her recommendations, the student should submit these materials to the Program Coordinator who will forward it to the appropriate Credentials Committee for review. The student will be notified via e-mail of the committee's decision.
5. If the substitute course is to replace a School of Public Health Core course (administration-PubH 6751/6752, behavioral/social science-PubH 6020, biostatistics-PubH 6414/6450, environmental health-PubH 6101/6102, epidemiology-PubH 6320/6341, ethics-PubH 6741/6742), there is an additional step to get School level approval. To complete this next step, provide two additional copies of the above materials. All of those materials should be submitted to your Program Coordinator. Upon receipt of those materials, the Program Coordinator will review the request with the Program Director and then if approved by the Program Director, all copies of the request will be forwarded to the SPH Educational Policy committee. The student will be notified by the SPH Student Services Center via e-mail of the committee's decision. If the Program Director does not approve of the request, the Program Coordinator will inform the student that the request will not be forwarded to the SPH Educational Policy Committee for review.

Application for Degree

MPH students are required to complete the Application for Degree process to inform the University of Minnesota the semester they intend to graduate. There are strict deadline dates before a student can be cleared for graduation. We strongly encourage students to complete the process at least 2 months before their intended completion date. Navigate to the application via MyU through the "academics" tab > "Degree Progress" and click on the Apply to Graduate link.

11. BIOSTATISTICS PHD DEGREE PROGRAM

11.1 BIOSTATISTICS PHD COMPETENCY STATEMENT

Biostatisticians are key collaborators in scientific research, providing expert advice on and direct involvement in study design, implementation, analysis, inference and communication. The Biostatistics program balances education in applied and theoretical biostatistics, mathematical statistics, and computing, all within the context of public health, medicine, and clinical translational research. Employers' requirements are periodically assessed by surveys of and informal discussions with alumni and their employers, and the curriculum is often modified as a result of that feedback. No biostatistics or statistics professional organizations have developed competency sets for graduate programs. Thus, the Biostatistics programs' competencies reflect the views of the faculty and alumni on the critical knowledge and skills needed by biostatisticians, as well as review of peer programs' curricula.

PhD — Biostatistics	LEARNING EXPERIENCES																
	Math 5615 Introduction to Analysis	PUBH 7420 Clinical Trials	PUBH 8401 Linear Models	PUBH 8403 Biostat Research Mentoring	PUBH 8412 Advanced Inference	PUBH 8432 Probability Models	PUBH 8435 Latent Variable Models	PUBH 8442 Bayesian Decision Theory	PUBH 8445 Statistical Genetics I	PUBH 8446 Statistical Genetics II	PUBH 8452 Longitudinal Data Analysis	PUBH 8462 Advanced Survival Analysis	PUBH 8472 Spatial Biostatistics	PUBH 8475 Stat Learning and Data Mining	PUBH 8482 Sequential Analysis	PUBH 8494 Directed research.	PUBH 8888 Thesis Credit: Doctoral
Work independently as a practicing biostatistician, on an equal basis as a collaborator with public health and medical researchers in designing, carrying out, and analyzing clinical trials, case control studies, and other experimental and observational studies.		X	X			X	X	X	X	X	X	X	X	X	X	X	X
Conduct and publish original research, solely or collaboratively, on the theory and methodology of biostatistics.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Develop a biological and public health perspective in research.		X		X					X	X	X	X	X	X		X	X

11.2 REQUIREMENTS

Coursework

The PhD program requires 7 core courses and 3 electives, a preliminary written examination, a preliminary oral examination, writing the dissertation, and defending the dissertation in a final oral examination.

- Seven core biostatistics courses:
 - PubH 8401 (Linear Models)
 - PubH 8403 (Biostat Research Mentoring)
 - PubH 8412 (Advanced Statistical Inference)
 - PubH 8432 (Probability Models)
 - PubH 8442 (Bayesian Decision Theory)
 - STAT 8101-8102 (Theory of Statistics I and II)
- 9 credits of Biostatistics elective courses chosen from the following:
 - PubH 7420 (Clinical Trials)
 - PubH 7465 (Biostat Consulting)
 - PubH 8422 (Modern Nonparametrics)
 - PubH 8435 (Latent Variable Models)
 - PubH 8445 (Statistics for Human Genetics)
 - PubH 8446 (Advanced Statistical Genetics and Genomics)
 - PubH 8452 (Advanced Longitudinal Data Analysis)
 - PubH 8462 (Advanced Survival Analysis)
 - PubH 8472 (Spatial Biostatistics)
 - PubH 8475 (Statistical Learning and Data Mining)
 - PubH 8482 (Sequential and Adaptive Methods for Clinical Trials)
 - PubH 8492 (Hierarchical and Richly Parameterized Linear Models)
 - Other 8000 level biostatistics topics courses that is not included in the Core Curriculum
 - 8000 level course offered by the School of Statistics that is not included in the Core Curriculum
- 3 credits of a health science elective selected from PubH 6000, 7000, 8000, level courses offered by other divisions in the SPH or other Academic Health Center programs. It is advised to select the health science elective in consultation with an RA or thesis advisor. To use a course outside of PubH or the Academic Health Center, students must get approval from their advisor and the Director of Graduate Studies before registering for the course.
- Survival Analysis (PubH 7450).
- At least 24 thesis credits (PubH 8888) while writing the doctoral thesis. Students must pass their preliminary oral examination before they can begin registering for thesis credits, so this examination should be scheduled as early as possible. Students who delay their preliminary oral examination may be forced to delay their graduation by a semester to have time to fulfill the thesis credit requirement.
- Students who are not native-speakers of English must demonstrate proficiency in spoken English, as described in section 7.6. It is best to complete this during the first semester.

All PhD program courses must be taken with the A/F grading option, except for courses only offered pass/fail (S/N).

Sample Biostatistics PhD Course Schedules

Below are two sample Biostat PhD course schedules. The schedule a student takes will vary depending on their background when admitted to the Biostatistics PhD program. Students are encouraged to consult with their academic advisor and Program Director/Director of Graduate Studies to determine the most appropriate schedule.

Schedule 1: Students admitted to the University of Minnesota with an MS in Statistics or Biostatistics and who have taken courses in Survival Analysis and graduate level mathematical statistics (at the level of STAT 8101-8102) will follow the Biostatistics PhD course schedule outlined below.

Fall Semester – Year One

Course	Title	Credits
PubH 8401	Linear Models	4
PubH 8403	Biostat Research Mentoring	1
PubH 8432	Probability Models	3

Spring Semester – Year One

PubH 8412	Advanced Statistical Inference	4
PubH 8442	Bayesian Decision Theory	3
Preliminary Written Exam to be taken in August. **		

** The written exam covers materials from the 4 Biostat courses (PubH 8401, 8412, 8432, 8442)

Additional courses satisfying the 3 biostatistics elective requirements, PubH 7450 and the Health Science elective are typically taken during the second or third year.

Schedule 2 Students entering the PhD program without a Masters degree in Statistics or Biostatistics typically take two years of courses before the PhD written exam. The standard course schedule for a student with this background is outlined below.

Fall Semester – Year One

Course	Title	Credits
Math 5615H* or Math 4603*	Mathematical Analysis I Advanced Calculus I (strongly recommended for students without a previous course in Real Analysis)	4 3
PubH 7405	Biostatistics: Regression	4
Stat 8101	Theory of Statistics I	4

Spring Semester – Year One for students entering the program with an undergraduate degree

PubH 7406	Advanced Regression and Design	4
Stat 8102	Theory of Statistics II	4
<i>Varies</i>	<i>PubH (Health Sciences) elective</i>	3

Year 1 Masters Written Exam to be taken in May after Spring Semester finals**

Fall Semester – Year Two

Course	Title	Credits
PubH 8401	Linear Models	4
PubH 8403	Biostat Research Mentoring	1
PubH 8432	Probability Models	3

Spring Semester – Year Two

PubH 8412	Advanced Statistical Inference	4
PubH 8442	Bayesian Decision Theory	3
<i>Varies</i>	<i>Elective Course</i>	<i>1-4</i>

PhD Preliminary Written Exam to be taken in August. ***

Fall Semester – Year Three

Course	Title	Credits
PubH 7450	Survival Analysis	
<i>Varies</i>	<i>Elective Courses</i>	<i>1-4</i>

Spring Semester – Year Three

<i>Varies</i>	<i>Elective Courses</i>	<i>1-4</i>
<i>Varies</i>	<i>Elective Courses</i>	<i>1-4</i>

During Year 3 students will complete the 3 biostatistics elective requirements.

* Students that have not had a previous course in real analysis are required to take one semester of real analysis and are encouraged to take Math 4603 (Math 5615H would also be sufficient). Students that have had a previous course in real analysis are strongly encouraged to take Math 5615H but it is not required.

** The year 1 written exam covers materials from the 4 Biostat masters level courses (PubH 7405, 7406, Stat 8101, 8102). Schedule 2 students are expected to take the exam at the end of their first year. Students who are expected to take the exam but do not, will be officially recorded as failing the written exam. Exemptions can only be granted by the academic advisor and the Program Director/Director of Graduate Studies, in consultation with the Division Head. To help students prepare, previous years' written exams and answer keys are available for review and photocopying in the Division office.

Students have two chances to pass the year 1 exam. If they do not pass the first time, they must take the exam one year later. A student who fails on the second try or does not take the exam will not be allowed to continue in the PhD program.

*** The PhD written exam covers materials from the 4 Biostat PhD courses (PubH 8401, 8412, 8432, 8442).

Registration Requirement and Student Status

Full-time status is required to hold a graduate assistantship. PhD students must register for at least six credits each semester to be certified by the Office of the Registrar as a full time Graduate School student. PhD students may register for pre-thesis credits (PubH 8666) when they have completed all required courses but not yet passed their preliminary oral examination, and need to be registered as full-time students in the Graduate School.

Students should maintain active student status from the beginning of their program until they graduate. To maintain active student status, students must register every fall and spring semester. Students who have completed all required courses may register for Grad 0999, which is free, zero-credit, non-graded and fulfills the registration requirement.

Students who do not register for one semester lose their student status with the Graduate School. To regain student status, they must reapply (<http://www.isph.umn.edu/wp-content/uploads/2014/01/Change-of-Status-Request.pdf>).

11.3 TECHNICAL RESEARCH WRITING AND RESEARCH PRESENTATIONS

While not required within the Biostatistics PhD curriculum, PhD students are encouraged to consider taking a course or two in technical research writing and/or research presentations. Some course options include:

- GRAD 8101 - Teaching in Higher Education, 3 cr
- Writ 5051 - Research Writing Practice for Non-native Speakers, 3 cr
- Writ 5052 - Research Presentations and Conference Writing for Non-native speakers of English, 3 cr

11.4 MINOR FIELD

Minor field courses must be in a single field. The minor field must be declared before the student passes the preliminary oral examination and the Program Director/Director of Graduate Studies for the minor field must be consulted concerning the requirements early in the program of study and also must approve and sign the Graduate Degree Plan before it is submitted to the Graduate Student Services and Progress office. One committee member for the preliminary oral examination must be Graduate Faculty in the minor field.

11.5 PRELIMINARY WRITTEN PHD EXAMINATION

The preliminary written PhD examination is offered once each year in August. The exam covers these four core courses:

- PubH 8401 Linear Models
- PubH 8412 Advanced Statistical Inference
- PubH 8432 Probability Models
- PubH 8442 Bayesian Decision Theory

Students are expected to take the exam the first time it is given after the student completes these courses. Students who are expected to take the exam but do not, will be officially recorded as failing the written exam. Exemptions can only be granted by the academic advisor and the Program Director/Director of Graduate Studies, in consultation with the Division Head. To help students prepare, previous years' written exams and answer keys are available for photocopying from the Biostatistics office.

The exam is closed-book, four hours long, and consists of questions that may touch on several courses. Students are issued hand calculators for the exam and may not use their own calculator. Student's names are masked by assigning individual code letters when the test is given, and names remain masked when test papers are graded. The masking is removed when the faculty meets to discuss the test scores, and in addition to the exam results there is a broad assessment of the student's record and research potential. All these factors are weighed with the examination scores in deciding who passes the comprehensive written examination. Examination answers are available to students after the grading.

When a student passes the exam, the Biostatistics division will record the Preliminary Written Examination results with the Graduate School.

Students have two chances to pass the exam. If they do not pass the first time, they must take the exam one year later. A student who fails on the second try or does not take the exam will not be allowed to continue in the PhD program.

11.6 GRADUATE DEGREE PLAN

PhD students should file the official *Graduate Degree Plan* with the Program Coordinator at the end of the second year of the PhD program, or at least 2 months prior to their preliminary oral exam. The Graduate Degree Plan is available online at <http://policy.umn.edu/forms/otr/otr198.pdf>. Complete this form in consultation with an academic advisor. On this form, student will list required coursework:

- A minimal set of required courses, completed and proposed, in the major field and in the minor field or supporting program, including any transfer work. Students do not need to list all courses they have taken. By the time a student is ready to graduate all the courses listed must exactly match the entries on their transcript. To revise the list of courses, file a Graduate School Petition Form (<http://policy.umn.edu/forms/otr/otr190.pdf>).

11.7 SATISFACTORY PROGRESS IN THE PHD PROGRAM

The faculty expects that students will advance steadily towards graduation, which is called making "satisfactory progress." To make satisfactory progress in the PhD program, a student should:

- Register for courses every fall and spring semester until course requirements are completed. Students with graduate assistantships must register for at least 6 credits to maintain their full-time status, or lose their assistantship. Students who have not passed their preliminary oral examination may register for Doctoral Pre-Thesis Credits (PubH 8666) for up to 2 semesters, if necessary to fulfill this requirement.
- Maintain a GPA of at least 3.3 in the required PhD courses (listed on the Graduate Degree Plan), and make up all grades of I (incomplete) within one year.
- Perform at or above expectations (i.e. motivation/initiative, dependability, ability to work with others, quality of oral/written communication) in Graduate Assistantship/Fellowship appointments.
- Complete the required courses and the preliminary written examination according to the Schedule (1 or 2) under which the student was admitted.
 - For Schedule 1 students, this means completing the required preparatory coursework in the first year and taking the PhD written examination at the end of the first year. Students have two chances to pass the PhD written exam. If they do not pass the first time, they must take the exam the following year. A student who fails on the second try or does not take the exam will not be allowed to continue in the PhD program.

- For Schedule 2 students, this means completing preparatory coursework during the first two years, taking the Masters/Year 1 written examination at the end of the first year, and taking the PhD written examination at the end of the second year. Students have two chances to pass each exam. If they do not pass an exam the first time, they must take it the following year. A student who fails either exam on the second try will not be allowed to continue in the PhD program.
- File a Graduate Degree Plan within one year of passing the PhD written examination.
- Take the preliminary oral examination within two years of completing the PhD written examination.
- After passing the preliminary oral examination, begin registering for thesis credits (PubH 8888) to fulfill the minimum of 24 credits.
- File a yearly Progress Report to be approved by the faculty. In the report, a student will indicate when they have taken or expect to take required courses and exams, and (once the written examination has been completed) their plans for starting/continuing/completing thesis or dissertation work, including expected graduation date. If a student has requested and/or received any exemptions from any of the above requirements, these should also be recorded. Reports are due by May 31 each academic year. The faculty will review and discuss progress reports at the June faculty meeting. If a student progress report is not approved, the student will be asked to revise it in consultation with their academic advisor and the Program Director/Director of Graduate Studies. Students will receive a letter from their academic advisor assessing their progress, and explaining any unfulfilled requirements for satisfactory progress. Failure to file an approved progress report within 90 days of the progress report due date constitutes not making satisfactory progress.

Failure to satisfy any of the above criteria could be deemed to not making satisfactory progress in the PhD program.

If a student needs an exemption from these requirements, they must make a written request to both the student's academic advisor and the Program Director/DGS. The request must include a justification for requesting the exemption.

If the Division determines that a student is not making satisfactory progress, the faculty reserves the right to:

- Require the student to meet with their academic advisor and the Program Director/DGS, to discuss the requirements for continuing in the program.
- Revisit funding status for the coming school year.
- Vote to decide whether to dismiss student from the program.

11.8 PRELIMINARY ORAL EXAMINATION AND THE DISSERTATION

PhD students are expected to begin considering dissertation areas and advisors after passing the PhD preliminary written examination, and to have begun work on their dissertation in earnest by their third year. As the plan of the dissertation becomes definite, it forms the basis for the preliminary oral examination.

At least one month prior to the student's preliminary oral exam (and after the Graduate Degree Plan has been approved by the Graduate Student Services and Progress office), the student should notify the Graduate Student Services and Progress office of their committee members (<http://www.grad.umn.edu/students/assignprelimcommittee/index.html>). This online form collects committee member's names and their role on the committee. The preliminary oral examination committee consists of at least four faculty with graduate education responsibilities: three from Biostatistics (including the adviser), and one from outside Biostatistics. All committee members must be listed as a Faculty with Graduate Education Responsibilities with the Graduate School (https://apps.asr.umn.edu/faculty_roles/). The Preliminary Oral Exam Chair will be the student's dissertation advisor. This is in contrast to the Final Oral Examination Committee, where neither the advisor (nor co-advisor) can be the Chair.

For students declaring a minor, a faculty member from the minor department must be included on the committee. This person and will also fulfill the external member requirement.

Once the student obtains their thesis advisor's approval they can schedule their preliminary oral exam. The preliminary oral examination should be scheduled at least one week in advance with the Graduate Student Services and Progress (<http://www.grad.umn.edu/current-students-graduate-student-services-progress/preliminary-scheduling>). The Graduate Student Services and Progress office will prepare the *Preliminary Oral Examination Report* form.

Thesis proposal material should be submitted to committee members at least a week before the examination.

The format for the preliminary oral examination is usually an oral presentation of the student's thesis proposal to their examination committee. The presentation often summarizes completed work, work in preparation, and planned work: "what the student has already done, what they know they can do, and what they think they can do."

It is expected that a PhD thesis in Biostatistics will contain material of sufficient breadth, depth, and sophistication to yield at least two papers that are strong submissions to scholarly journals of quality comparable to the *Journal of the American Statistical Association*, *Biometrika*, *Journal of the Royal Statistical Society (Series B)*, *Biometrics*, *Statistics in Medicine*, *Bioinformatics*, *Genetic Epidemiology*, *Human Heredity*, *American Journal of Epidemiology*, *Journal of Clinical Epidemiology*, or *Statistical Science*. Thesis research often yields an additional submission to a journal in an area of substantive application.

Students wishing to see examples of completed dissertations can go to the following website:

<http://conservancy.umn.edu/handle/11299/45272>. The collection can be sorted by name, or one can browse the collection by

dates, authors, titles, subjects and types. In addition, completed dissertations from previous students are in the Biostatistics Reading Room.

Doctoral Dissertation Fellowship

There is a great advantage to scheduling the preliminary oral examination before January of a student's second or third year: students are eligible for a Graduate School Dissertation Fellowship, which provides support during one's final year to work on their thesis. Please see the Director of Graduate Studies for more information about this award or <https://www.grad.umn.edu/funding-tuition/ddf>.

11.9 FORMS, THE FINAL ORAL EXAMINATION, AND GRADUATING

The final oral examination is a 50-minute public seminar where the student presents their dissertation results, followed by a defense of the dissertation before the final oral exam committee.

There are several things that must be done after passing the preliminary oral examination, before a student can take the final oral examination and graduate. PhD students are required to submit numerous forms to the Graduate Student Services and Progress office to report details about their degree coursework, examining committee members, and to obtain approvals at each step. It is important to initiate the required forms far enough in advance to allow time for automated routing for approvals and allow for delays. The Graduate Student Services and Progress office will not allow students to defend the doctoral thesis until all required forms have been submitted and approved.

1. Upon passing the preliminary oral examination, the committee will sign the *Preliminary Oral Examination Report* form. This form must be submitted to the Graduate Student Services and Progress office no later than the working day after the exam to reflect doctoral candidacy.
2. Begin registering for thesis credits (PubH 8888): 24 credits are required. Note that full financial support pays for only 14 credits per semester, so a student will need at least two semesters to get these credits unless the student pays for the credits over 14 out of pocket.
3. Another time constraint is that the final oral examination must be at least 15 weeks after the preliminary oral examination.
4. Register every spring and fall semester to maintain active student status while working on their thesis. If a student has completed all required credits including thesis credits (and does not hold a Graduate Assistantship), they may register for Grad 0999, which is free, zero-credit, non-graded and fulfills the registration requirement.
5. At least one month prior to the student's final oral defense, the student must notify the Graduate Student Services and Progress office of their doctoral final exam committee members (<http://www.grad.umn.edu/students/assigndocfinalcommittee/index.html>). The final oral exam committee usually is the same as the preliminary oral exam committee. The student and advisor should discuss who should be the chair; the final oral exam chair cannot be the student's advisor or co-advisor. A minimum of four members are required: three from Biostatistics (including their advisor), and one from outside Biostatistics. All committee members must be listed as Faculty with Graduate Education Responsibilities with the Graduate School (https://apps.asr.umn.edu/faculty_roles/).
6. After notifying the Graduate Student Services and Progress office of the student's final oral defense committee, the graduation packet may be requested (<https://apps.grad.umn.edu/secure/gradpacket/>). The Graduation Packet contains all the forms and instructions needed to finish including: graduation instructions, the *Thesis Reviewer's Report* form, and the process for completing the Application for Degree.
7. Finish thesis to their advisor's satisfaction.
8. Three or four weeks before the scheduled final oral examination, the thesis must be submitted to the committee.
9. The Graduate School awards degrees administratively every month. The earliest a doctoral student can graduate is at the end of the month of final oral examination. Before the first working day of the anticipated graduation month, complete the Application for Degree process via MyU (<https://www.grad.umn.edu/current-students-graduate-student-services-progress/application-degree>).
10. Once a date for the final oral examination has been arranged with the committee members, inform the Biostatistics main office of the scheduled date and time. Staff will arrange a room for the presentation, as well as schedule an exit interview with the Division Head. This exit interview is a way for graduating students to give comments on the Biostatistics program.
11. Notify the Graduate Student Services and Progress office of the scheduled exam at least one week in advance via their online form (<http://www.grad.umn.edu/graduate-student-services-progress/final-schedule>).
12. Prior to the final oral defense, submit the signed *Thesis Reviewer's Report* form to the Graduate Student Services and Progress office. Sometimes reviewers are out of town. The GSSP office has very specific rules. No electronic signatures are allowed, and they mean no signatures signed using an electronic service. It is okay if the form can be scanned, emailed to the reviewer, printed by the reviewer, signed by the reviewer, and scanned back. This means all three signatures can be done by this method, one by one. They must be all submitted together at the same time to the GSSP office. If you have questions

about what is allowed, they prefer to have students contact them so they can further clarify what a scanned signature is. Once the *Thesis Reviewer's Report* is approved by the Graduate Student Services and Progress office, the student will receive the *Final Oral Examination Report* form.

13. After passing the final oral examination, the exam committee will sign the *Final Oral Examination Report* form. This form must be submitted to the Graduate Student Services and Progress office no later than the last business day of the anticipated month of graduation.
14. In addition to submitting the final thesis online, before the last business day of the month the student plans to graduate, submit to the Graduate Student Services and Progress office the Signature Page (all signed by the advisor or advisors), Title Page, Deposit Agreement, and the Survey of Earned Doctorates. Consult Graduation Packet for formatting guidelines and procedure.
15. Submit a thesis copy to the Biostatistics Reading Room.
16. Graduates are invited to attend a commencement ceremony, The School of Public Health holds commencement every May.
17. Complete the School of Public Health Alumni Survey at: <https://secure.ahc.umn.edu/PublicHealth/careersurvey>.
18. Finally, the Biostatistics office will give all graduating student an *Alumni Information* form. Students are asked to fill out the contact information so we can keep in touch. Students should copy any files from their biostat network computer account, and return any Reading Room materials. Students must also return all University keys to the Biostatistics Division office.

For detailed explanations of the forms and requirements, please consult the steps toward graduation at (<http://www.grad.umn.edu/sites/grad.umn.edu/files/doctoral%20phd%20edd.pdf>).

12. BIOSTATISTICS MINOR DEGREE

12.1 BIOSTATISTICS MINOR DEGREE REQUIREMENTS

The Graduate Minor in Biostatistics is designed for students in non-biostatistics graduate degree programs at the University of Minnesota. The minor in Biostatistics is designed to familiarize students with the statistical tools necessary for analyzing health science data. By taking public health courses tailored specifically towards teaching fundamentals of statistical methodologies and programming techniques, students will develop an appreciation for tools that enable them to be involved in the design and analysis of quantitative studies as part of their future professional career or graduate study in an applied field.

All students completing a Biostatistics Minor must have a member of the Biostatistics faculty on their final exam committee. Paperwork to complete the request for a minor can be found at the Graduate School's website: even if a student is completing a degree that is not administered by the Graduate School, they still must complete the Graduate School form to request a minor.

A student requesting an exception to the minor degree requirements must contact the Biostatistics Director of Graduate Studies. If the DGS determines that graduate level coursework equivalent to one (or more) of the minor requirement(s) has been taken elsewhere, then the DGS may grant the student permission to substitute other (typically interpreted as more advanced) Biostatistics coursework in place of the coursework listed in the minor requirements. The student may not 'place out' of the Biostatistics coursework or transfer the equivalent coursework in from another institution. This policy holds for both the 'required' courses in the minor as well as the 'choose 2' (elective) courses in the minor, and for both the masters minor and the PhD minors.

Questions? Contact the Biostatistics Director of Graduate Studies (bstdgs@umn.edu).

12.2 COURSE OPTIONS

One course may be taken S/N and all other courses must be taken A/F.

Biostatistics Master's Degree Minor

Choose two courses from:

- PubH 7415, Introduction to Clinical Trials, 3 cr [PubH 6414 or PubH 6450 or one semester graduate-level introductory biostatistics or statistics]
OR
- PubH 7420, Clinical Trials, 3 cr. [PubH 6451 or PubH 7406]
- PubH 7430, Statistical Methods for Correlated Data, 3 cr [PubH 6451 or PubH 7406 or STAT 5303 and SAS at the level of 6420]
- PubH 7435, Latent Variable Models, 3 cr [PubH 6451]
- PubH 7440, Introduction to Bayesian Data Analysis, 3 cr [STAT 5101-02 or PubH 7405-06]
- PubH 7445, Statistics in Genetics and Molecular Biology, 3cr [PubH 6451]
- PubH 7450, Survival Analysis, 3 cr [PubH 7406 and STAT 5102]
- PubH 7470, Statistics for Translational and Clinical Research, 3 cr [PubH 6450-51]
- PubH 7475, Statistical Learning and Data Mining, 3 cr [PubH 6451 or PubH 7406]

Biostatistics PhD Minor, for non-statistics students

Either these two courses:

- PubH 7401, Fundamentals of Biostatistical Inference, 4 cr
- PubH 7402, Biostatistical Modeling and Methods, 4 cr [PubH 7401 (Fund. Biostat Inf.)]

Or these two courses:

- PubH 7405, Biostatistics: Regression, 4 cr. [STAT 5101 or co-rec STAT 5101]
- PubH 7406, Advanced Regression and Design, 4 cr [PubH 7405 and STAT 5102 or co-rec STAT 5102]

Plus two courses from:

- PubH 7415, Introduction to Clinical Trials, 3 cr [PubH 6414 or PubH 6450 or one semester graduate-level introductory biostatistics or statistics]
OR
PubH 7420, Clinical Trials, 3 cr. [PubH 6451 or PubH 7406]
- PubH 7430, Statistical Methods for Correlated Data, 3 cr [PubH 6451 or PubH 7406 or STAT 5303 and SAS at the level of 6420]
- PubH 7435, Latent Variable Models, 3 cr [PubH 6451]
- PubH 7440, Introduction to Bayesian Data Analysis, 3 cr [STAT 5101-02 or PubH 7405-06]
- PubH 7445, Statistics in Genetics and Molecular Biology, 3cr [PubH 6451]
- PubH 7450, Survival Analysis, 3 cr [PubH 7406 and STAT 5102 or STAT 8102]
- PubH 7470, Statistics for Translational and Clinical Research, 3 cr [PubH 6450-51]
- PubH 7475, Statistical Learning and Data Mining, 3 cr [PubH 6451 or PubH 7406]

Students take the required set of two courses first, before taking their choice of two courses from the “Plus 2” list of eight.

For graduate students in statistics, the PhD minor requirements include:

These two courses:

- PubH 7420, Clinical Trials, 3 cr [PubH 6451 or PubH 7406]
- PubH 7450, Survival Analysis, 3 cr [PubH 7406 and STAT 5102]

Plus two courses from:

- PubH 8422, Modern Non-parametrics, 3 cr [PubH 7406, STAT 5102]
- PubH 8442, Bayesian Decision Theory and Data Analysis, 3 cr [PubH 7460, STAT 5101, STAT 5102, STAT 8311]
- PubH 8452, Advanced Longitudinal Data Analysis, 3 cr [Stat 5101, STAT 8311 and SAS or R experience]
- PubH 8462, Advanced Survival Analysis, 3cr [PubH 7450, PubH 8432 and STAT 5102]
- PubH 8472, Spatial Biostatistics, 3 cr [STAT 5101, STAT 5102 and recommend Stat 8311, PubH 8442 or PubH 7440]
- PubH 8482, Sequential Analysis, 3cr [PubH 7450, 8432, STAT 5102]

13. BIOSTATISTICS FACULTY WITH GRADUATE EDUCATION RESPONSIBILITIES

Saonli Basu

Associate Professor of Biostatistics
Director of Graduate Studies

M.S., 1998, Statistics, Indian Statistical Institute, Kolkata, India
Ph.D., 2005, Statistics, University of Washington

Saonli Basu's research interest includes statistical genetics, correlated data analysis and data mining. Currently Dr. Basu is working on modeling gene-environment interaction and analyzing high-dimensional genetic data to study association between genes and multiple traits in case-control or family studies. Her methodological research is supported by NIH/NIDA R01. She is a member of the Biostatistics and Bioinformatics Core of the Masonic Cancer Center. She is also involved in multiple research projects with the Division of Epidemiology & Community Health. Her collaborative work involves addressing statistical issues in family-based or cohort-based genome-wide association studies.

Ann M. Brearley

Assistant Professor of Biostatistics

Ph.D., 1986, Chemistry, University of Minnesota
M.S., 2008, Biostatistics, University of Minnesota

Ann Brearley divides her time between collaborative research and teaching. She is a member of the Biostatistical Design and Analysis Center (BDAC) of the Clinical and Translational Science Institute (CTSI) where her collaborative research interests include the design, monitoring and analysis of clinical trials, particularly medical research aimed at helping people in low and middle income countries (LMIC), evidence-based medicine, and meta-analysis. Ann teaches introductory biostatistics courses (both in-person and online) and the biostatistical consulting course. Her current teaching interests are in biostatistical literacy, active learning, online learning, project-based learning, use of 'The Islands' in teaching, methods for teaching consulting skills, methods for training future teachers, collaborative teaching, and evaluation. She received the Charles N. Hewitt Creative Teaching Award from the University of Minnesota School of Public Health in 2014.

Bradley P. Carlin

Professor of Biostatistics
Mayo Professor in Public Health
Division Head

M.S., 1986, Statistics, University of Connecticut
Ph.D., 1989, Statistics, University of Connecticut

Brad Carlin's teaching experience and interests include introductory probability and statistics, statistical computing, and graduate level methodology and data analysis courses. His research deals primarily with the development of Bayes and empirical Bayes methodology for biostatistical problems, and the development and analysis of Markov chain Monte Carlo computational techniques for implementing these methods. His applied interests include statistical applications in cancer control, spatio-temporal disease mapping, clinical trials, meta-analysis and sports statistics.

Haitao Chu

Professor of Biostatistics

M.D., 1995, Preventive Medicine, West China University of Medical Sciences
M.S., 2002, Biostatistics, Emory University
Ph.D., 2003, Biostatistics, Emory University

Haitao Chu's research interests include: evidence-based medicine; precision medicine; epidemiology methods; latent class model; meta-analysis; statistical methods for mismeasured, missing, and correlated data; statistical methods for survival and longitudinal data; statistical methods for observational studies and randomized clinical trials; and applied Bayesian methods. His application research interests focus on HIV/AIDS, cancer, cardiovascular disease and injury prevention.

John E. Connett

Professor of Biostatistics

A.M., 1964, Mathematics, University of Missouri
Ph.D., 1969, Mathematics, University of Maryland

John Connett has research interests in clinical trials in lung disease, ophthalmology and cardiovascular disease, case-control studies, estimation of odds ratio, random effects and longitudinal models, coefficient-of-variation models for laboratory data, variance estimation, and statistical computing. He is currently PI for the Statistical and Data Coordinating Center for two ongoing multicenter clinical trials in lung disease and for a clinical trial of strategies to treat cardiac arrest patients, and Director of the Biostatistics, Epidemiology and Research Design center in the Clinical and Translational Science Institute.

Mariza de Andrade

Adjunct Professor
Mayo Clinic Cancer Center
Professor of Biostatistics
Mayo Clinic College of Medicine

M.Sc., 1978, Statistics, Institute of Pure and Applied Mathematics, Rio de Janeiro, Brazil
M.Sc., 1988, Biostatistics, University of Washington, Seattle, WA
Ph.D., 1990, Biostatistics, University of Washington, Seattle, WA

Mariza de Andrade's research interests include admixture mapping, and methods for diagnostic, longitudinal and multivariate traits for linkage analysis of quantitative phenotypes using variance components approach, and extending these methods for association studies using family and population-based data. Mariza is also involved in a wide range of genome-wide association studies using family and case-control designs for complex disorders from various networks: Genes. Environment Association. Studies (GENEVA), Cohorts for Heart & Aging Research in Genomic Epidemiology (CHARGE), Electronic Medical Records & Genomics (eMERGE), Genetic Epidemiology Network of Atherosclerosis (GENOA), and Genetic Epidemiology of Lung Cancer Consortium (GELCC). She is an active collaborator with various investigators at Mayo Clinic, the Universities of Michigan and Cincinnati, MD Anderson Cancer Center in Houston, TX, and University of Sao Paulo, Sao Paulo, Brazil.

Sue Duval

Associate Professor of Medicine and Biostatistics

Ph.D., 1999, Biostatistics, University of Colorado Health Sciences Center

Statistical methods in epidemiology, meta-analysis methods and their applications, publication bias, evidence-based healthcare, systematic review methods, peripheral vascular disease and cardiovascular disease epidemiology.

Lynn E. Eberly

Professor of Biostatistics

M.S., 1994, Statistics, Cornell University
Ph.D., 1997, Statistics, Cornell University

Lynn Eberly's current research interests involve methods for correlated data including medical imaging data, such as MRI, diffusion MRI, functional MRI, and NMR spectroscopy, and time-to-event, clustered, and longitudinal data. She has particular interest in the areas of neurology/neuroscience, psychiatry/psychology, and endocrinology. Lynn is a collaborator on many projects related to imaging in these areas. She teaches introductory biostatistics and clinical trials courses. She was given the Leonard M. Schuman Award for Excellence in Teaching in the School of Public Health in 2002. She is a Fellow of the American Statistical Association and was the inaugural winner of the Biostatistics Mentor of the Year Award in 2016, given by the University's Clinical and Translational Science Institute.

Mark Fiecas

Assistant Professor of Biostatistics

B.S., 2006, Mathematics, University of Houston
Ph.D., 2012, Biostatistics, Brown University

Mark's methodological research interests include time series analysis, spatio-temporal models, and estimating high-dimensional parameters. He is also interested in neuroimaging studies and imaging genetics.

Birgit Grund

Associate Professor of Statistics

M.S., 1982, Math/Statistics, Humboldt-Universität (Berlin)
Ph.D., 1987, Math/Statistics, Humboldt-Universität (Berlin)

Birgit Grund has research interests in the design, conduct and analysis of clinical trials, and their application in AIDS research; other research interests include nonparametric curve estimation and smoothing methods.

Weihua Guan

Assistant Professor of Biostatistics

M.S., 2001, Statistics, Texas A&M University
Ph.D., 2010, Biostatistics, University of Michigan

Weihua Guan has research interests in statistical genetics, and identification of genes involved in complex diseases and traits, with special interests on developing statistical and analytical methods for the genetic and epigenetic data using new high-throughput technologies.

Erika Helgeson

Assistant Professor of Biostatistics

Ph.D., 2017, Biostatistics, University of North Carolina

Erika Helgeson's methodological research interests include statistical machine learning, data mining, and nonparametric methods for complex, high-dimensional data. Her current work is in the development of novel methods to identify and validate clusters in high-dimensional low-sample size data sets. Her applied research interests include chronic pain conditions, specifically temporomandibular disorders and canine osteoarthritis.

James S. Hodges

Professor of Biostatistics

M.A., 1986, Public Affairs, University of Minnesota
Ph.D., 1985, Statistics, University of Minnesota

Jim has collaborated with researchers in many areas of health care including dentistry, neurology, pediatric endocrinology, cardiovascular diseases, infectious diseases, psychology/psychiatry, cancer, rheumatology, nephrology, and gastroenterology as well as researchers in sociology, demography, marketing, wildlife management, ornithology, horticulture, combat analysis, military logistics, simulation models, and airport safety. His statistical research is in hierarchical and other richly-parameterized models.

Katherine Huppler Hullsiek

Senior Research Associate, Biostatistics

M.S., 1989, Mathematics, St. Cloud State University
M.S., 1996, Biostatistics, University of Minnesota
Ph.D., 1999, Biostatistics, University of Minnesota

Kathy Huppler Hullsiek has research interests in the design, conduct and analysis of clinical trials and cohort data related to co-infection with HIV and cryptococcal meningitis. She is the statistician for several studies in Uganda and South Africa that evaluate treatment strategies for those with cryptococcal meningitis and screening strategies for those at risk for cryptococcal meningitis.

Joseph Koopmeiners

Associate Professor of Biostatistics

M.S., 2004, Biostatistics, University of Minnesota

Ph.D., 2009, Biostatistics, University of Washington

Joe Koopmeiners's research interests include Bayesian adaptive methods for clinical trial, causal inference and the development of novel imaging biomarkers for cancer detection and prognosis. Dr. Koopmeiners is also a member of the Biostatistics and Bioinformatics Core of the University of Minnesota Masonic Cancer Center. Dr. Koopmeiners' statistical methods research is strongly motivated by his collaborative research in the cancer research, which are currently focused on the areas of tobacco regulatory science and the development of imaging technology as a diagnostic tool for prostate cancer.

Chap T. Le

Distinguished Professor of Biostatistics

Director of Biostatistics and Bioinformatics,

Masonic Cancer Center - University of Minnesota

M.A., 1971, Mathematics, California State University - Fresno

Ph.D., 1978, Statistics, University of New Mexico

Dr. Le teaches PubH 7405 (Biostatistics Regression) and PubH 7470 (Biostatistics for Translational and Clinical Research), both in the fall semesters and short course (PubH 6432) in the summer. His collaboration has focused on analyses of survival and categorical data from clinical and translational research projects. His methodological research interests include epidemiological methods, crossover designs, survival analysis, logistic regression, correlated binary data, ordered alternatives, ROC curves, and, recently, the design and analysis of in vitro experiments for studying cancer drugs - especially, chemocombination therapies.

Dr. Le is the author of many research articles and several textbooks: Fundamentals of Biostatistical Inference (1992), Health and Numbers (1995, 2001, and 2010), Applied Survival Analysis (1997), Applied Categorical Data Analysis (1998), Introductory Biostatistics (2003, 2016), and Statistics Quick Reference Guide (2007), Categorical Data and Translational Research (2010).

Robert E. Leduc

Research Associate, Biostatistics

Ph.D., 1994, Mathematics, University of Wisconsin - Madison

Robert Leduc's research interests include clinical trials, especially in HIV research and kidney transplantation. Robert also has an interest in problems related to missing data or losses to follow-up, and drug resistance issues.

Eric Lock

Assistant Professor of Biostatistics

Ph.D., 2012, Statistics, University of North Carolina

Eric's research concerns the analysis of high-dimensional and complex data, with a focus on applications in genomics and molecular biology. His particular interests include the integration of multi-source data, exploratory factorization and clustering methods, and Bayesian nonparametric inference.

Xianghua Luo

Associate Professor of Biostatistics

M.S., 2000, Quaternary Geology, Peking University

Ph.D., 2005, Biostatistics, Johns Hopkins University

Xianghua Luo's research interests include methods and applications for recurrent event data, survival data, and longitudinal data; design and analysis of clinical trials. Collaborations include cancer research, blood and marrow transplantation (BMT), tobacco use and smoking cessation. Dr. Luo is a member of the Biostatistics Core of the Masonic Cancer Center.

Theodore Lystig

Adjunct Assistant Professor of Biostatistics
Director, Corporate Biostatistics, Medtronic

M.S., 1998, Biostatistics, University of Washington
Ph.D., 2001, Biostatistics, University of Washington

Ted Lystig's research interests include design and analysis of clinical trials for medical devices, active surveillance, signal detection, evidence synthesis, multiple testing, statistical genetics, goodness of fit for longitudinal data, and hidden Markov models.

Sumithra Mandrekar

Adjunct Professor
Professor of Biostatistics - College of Medicine, Mayo Clinic

Ph.D., 2002, Interdisciplinary - Statistics, Psychology, Internal
Medicine and Biomedical Engineering, The Ohio State University

Dr. Mandrekar is Professor of Biostatistics and Oncology at Mayo Clinic, Rochester MN; and is the Section Head for the Cancer Center Statistics at the Mayo Clinic and Group Statistician for the Alliance for Clinical Trials in Oncology. Her primary research interests include designs for predictive biomarker validation both in the initial and definitive setting, novel trial designs for dose-finding trials, and general clinical trial methodology related to identification of alternative Phase II cancer clinical trial endpoints. Her collaborative research areas include lung cancer and leukemia clinical trials, as well as early phase trials in cancer chemoprevention.

Andy Mugglin

Research Associate Professor of Biostatistics

Ph.D., 1999, Biostatistics, University of Minnesota

Andy Mugglin's research interests include clinical trials, Bayesian, adaptive, and other innovative clinical trial designs; Bayesian hierarchical modeling, spatio-temporal modeling, and computing. He also consults extensively in clinical study design for the medical device and pharmaceutical industries and serves on Data Monitoring Committees for various ongoing clinical trials.

Thomas Murray

Assistant Professor of Biostatistics

M.S., 2011, Biostatistics, University of Minnesota
Ph.D., 2014, Biostatistics, University of Minnesota

Thomas Murray's methodological research interests include Bayesian modeling, time-to-event analysis, competing and semi-competing risks, utility-based designs for controlled clinical trials with multiple outcomes, historical data incorporation, and Bayesian methods for dynamic treatment regimes. His applied interests include end-stage renal disease, dose-finding and comparative effectiveness in cancer, post-market surveillance, and ranking methods for sports—particularly, Ultimate (Frisbee).

James D. Neaton

Professor of Biostatistics

M.S., 1970, Biometry, University of Minnesota
Ph.D., 1984, Biometry, University of Minnesota

Jim Neaton's research interests are in the design and conduct of clinical trials. He currently is the leader of a large international clinical trials network called INSIGHT that is studying treatments for HIV and other infectious diseases. He is also actively involved trials for the prevention and treatment of Ebola virus disease in West Africa. He serves on data monitoring committees for studies sponsored by the National Institutes of Health and the pharmaceutical and device industry. He is a past member of the Cardiovascular and Renal Advisory Committee and current member of the Endocrinologic and Metabolic Drugs Advisory Committee of the Food and Drug Administration. He is Fellow of the American Statistical Association and the Society for Clinical Trials. Dr. Neaton also is an Adjunct Professor of Medicine and holds the title Distinguished International Professor as a result of receiving the University of Minnesota Global Engagement Award. He is a member of the Academic Health Center Academy for Excellence in Health Research. He teaches a course on the design and implementation of clinical trials and also teaches in a Summer Institute of Biostatistics for undergraduates each summer. He directs a T32 program for doctoral students who are interested in clinical trials in heart, lung, and blood disease.

David Nelson

Adjunct Assistant Professor
Associate Professor of Medicine
Senior Statistician, Center for Chronic Disease Outcomes Research
Minneapolis VA Medical Center

M.S., 1994, Statistics, University of Minnesota
Ph.D., 1998, Statistics, University of Minnesota

David Nelson is developing methods for inference in observational studies and model diagnostics using sufficiency and propensity theory. He also is interested in stepwise Bayes methods for finite population sampling and nonparametric statistical analysis.

Wei Pan

Professor of Biostatistics

M.S., 1995, Statistics, University of Wisconsin, Madison
Ph.D., 1997, Statistics, University of Wisconsin, Madison

Wei Pan has research interests in statistical genomics and genetics, neuroimaging data analysis, machine learning and data mining. He has taught courses on survival analysis, categorical data analysis, linear models and generalized linear models, microarray data analysis, statistical learning and data mining.

Ashley Petersen

Assistant Professor of Biostatistics

Ph.D., 2016, Biostatistics, University of Washington

Ashley Petersen's research focuses on developing methods in the area of statistical learning. In particular, her interest is in building flexible and interpretable data-adaptive models that are useful in modern settings with large numbers of covariates. Additionally, she develops methods for the analysis of calcium imaging data. She is a member of the Biostatistics and Bioinformatics Core of the Masonic Cancer Center, where she collaborates with investigators on a range of applications, including research on tobacco use and health disparities.

Cavan Reilly

Professor of Biostatistics

M.A., 1995, Economics, New School for Social Research
M.A., 1996, Statistics, Columbia University
Ph.D., 2000, Statistics, Columbia University

Cavan Reilly has research interests in a variety of areas including clinical trials and in the clinical application of high dimensional biological assays. He works on problems in infectious diseases including Ebola virus disease and HIV/AIDS.

Kyle Rudser

Associate Professor of Biostatistics

M.S., 2005, Biostatistics, University of Washington
Ph.D., 2007, Biostatistics, University of Washington

Kyle Rudser's research interests include the design, monitoring, and analysis of clinical trials, survival analysis, longitudinal analysis, and nonparametric approaches. He is a member of the Biostatistical Design and Analysis Center (BDAC), a group that is part of the Clinical and Translational Science Institute (CTSI), which is involved in a wide variety of collaborative projects with investigators throughout the Schools of Medicine, Nursing, Dentistry, and Public Health and Colleges of Pharmacy and Veterinary Medicine.

Sandra Safo

Assistant Professor of Biostatistics

Ph.D., 2014, Statistics, University of Georgia

Sandra Safo's research focuses on developing and applying advanced statistical methods and computational tools for big biomedical data (including -omics and electronic health records) to advance clinical translational research and precision medicine. Specifically, Sandra Safo is interested in integrative analysis of multiple high dimensional data types, statistical learning (including classification, discriminant analysis, and clustering), functional data analysis, and sample size methods. Her applied research interests include statistical applications in HIV, cardiovascular diseases, diabetes, and women's health.

David Vock

Assistant Professor of Biostatistics

M.Stat., 2009, Statistics, North Carolina State University

Ph.D., 2012, Statistics, North Carolina State University

David's research interests include causal inference, dynamic treatment regimes, longitudinal data analysis, and survival analysis. Much of his methodological work has been motivated by applications in organ transplantation, cardiovascular risk prediction, and smoking cessation.

Susan Wei

Assistant Professor of Biostatistics

Ph.D., 2014, Statistics, University of North Carolina - Chapel Hill

Susan Wei's research interest is in bringing machine learning techniques to bear on challenges in biomedical applications. Her current application interests include mobile health data from wearable devices and the artificial pancreas. Her methodological work uses machine learning techniques such as reinforcement learning and dictionary learning.

Julian Wolfson

Assistant Professor of Biostatistics

Ph.D., 2009, Biostatistics, University of Washington

My research interests include causal inference and statistical machine learning for complex data. I apply causal inference methods to understand the biological pathways underlying treatment and discover surrogate endpoints. I develop statistical machine learning tools for making predictions from complex datasets, including large-scale electronic health record data and sensor data from mobile devices. I am also a consulting statistician for several ongoing clinical trials.

Baolin Wu

Associate Professor of Biostatistics

Ph.D., 2004, Biostatistics, Yale University

Baolin Wu is interested in developing statistical and computational tools to help solve scientific problems in molecular biology and genetics. Currently his focuses are on computational biology and statistical genetics.

Lin Zhang

Assistant Professor of Biostatistics

M.S., 2007, Biology, Texas A&M University

Ph.D., 2012, Statistics, Texas A&M University

Lin's primary research interest is methodology development to solve important scientific problems involving complex correlated high-dimensional data using unified Bayesian models and sparsity priors. Her research broadly covers various statistical fields, including variable selection, graphical modeling, factor graphical analysis, spatial modeling, and functional data analysis with applications to genomics and imaging data.