

School of Public Health

Syllabus and Course Information



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

PubH 6450 Section 001 Biostatistics I Spring 2018

Credits: 4

Lecture: Monday and Wednesday 10:10 am -12:05 pm Bruininks 512 B

Instructor: Marta Shore

Office Address: Mayo A449, 420 Delaware Street SE, Minneapolis, MN 55455

E-mail: shore007@umn.edu

Office hours: Tuesday 2 – 4, Wednesday 1-2 Mayo A449

Lab 002 Monday 9:05 – 9:55 am Mayo C381

Instructor: Claire Smith

Email:

Office hours: Friday 1:15 – 2:15 Mayo A444

Lab 003 Wednesday 12:20-1:10 pm Mayo C381

Instructor: Sandra Castro Petersen

Office hours: Monday 3:30 – 4:30 Mayo A444

I. Course Description

In this course, we will explore the basic concepts of statistical inference, including: descriptive statistics, random variables and their distributions, point/interval estimation for means and odds/risk, hypothesis testing, ANOVA, simple regression/correlation, multiple regression, and possibly nonparametric methods. We will focus on health science applications using output from statistical packages.

II. Course Prerequisites

College Algebra (e.g. Math 1031), health science grad student, or instructor permission.

III. Course Goals and Objectives

By the end of the course, students should have a basic understanding of the fundamentals of biostatistical methods. This includes:

- Summarizing Data with Numerical Measures and Graphs
- Basic concepts of randomness and data distributions
- Point/Interval Estimation for Means and Proportions
- Hypothesis testing for Means and Proportions
- Contingency Tables: Odds Ratios, Relative Risk, Chi-Square Test, McNemar's test
- Simple and multiple linear regression
- Analysis of Variance (ANOVA)
- Nonparametric tests as optional topic.
- Basic SAS and/or R programming language skills

IV. Methods of Instruction and Work Expectations

- Wednesday concepts lectures and Monday theory lectures.
- 14 In class activities every Monday during class. Submitted through moodle.
- 13 computer lab sessions – one per week beginning Week 1.
- Online discussion forums for asking questions about the material and course.
- 12 Weekly content quizzes available through the moodle site.
- 11 homework assignments due approximately weekly. Submitted through Moodle.
- 2 analysis projects. Submitted through Moodle.
- 1 optional comprehensive exam.

Course Web Page

- The course web page, or Moodle page, is available through Moodle: <https://moodle.umn.edu> Click "Login" in the upper right hand corner and log in using your University of Minnesota email address (X500). You should see a link for this class.

Course Communication

- The primary method for communication is during lecture sessions. Students are encouraged to ask questions during the lectures and in class activities.
- Course-related **announcements** (changes to the schedule or due dates, topics covered on exams, etc.), will be made available on the class Moodle page in the **Announcements** heading at the top of the page. It is your responsibility to be aware of any announcements made. All students will also receive any announcements by email.
 - You **MUST** use your **University of Minnesota email address** (X.500 address) for email. All course communication will be sent to your umn.edu email account. If you have not yet initiated your U of M email account, you will need to do so at <http://www.umn.edu/initiate>. The instructor and TAs cannot respond to emails sent from other accounts.
- Students will also be able to ask questions through the **Discussion forums** on the moodle site.
 - The **Discussion Forums** on the Moodle page are the **primary mechanism for interaction** between students and the instructor and TAs. All of the students, the teaching assistants and the instructor can read all of

the postings in the General Q&A Forums. Because the instructor and the TAs check the forums regularly on a rotating basis, **asking a question in the Forums is the quickest way** to get an answer to your question. Here are some guidelines for the forums:

- **Please use thoughtful subject headings if you initiate a topic.** A subject heading should not be merely a homework question number, but instead, try to write a question that asks about a specific statistical concept or issue. This helps us best understand the problem and will help everyone find the topic at a later date.
 - **Please check other topics to see if your question has been asked already.** This will help cut down on starting redundant or duplicate topics on the same question.
 - **Please check other topics to see if there's a question you know the answer to.** The TAs and instructor will be checking the forums regularly, but we encourage you to help out! It not only helps the forums, it will help you better understand the concepts.
 - **You may also subscribe to any forum in order to receive emails of each post.** This setting is available on the left hand side of the page after clicking on a forum link.
- **In-person contact.** Any student can attend any office hours. The office hours are:
 - Tuesdays 2-4 pm in Mayo A449
 - Wednesdays 1-2 pm in Mayo A449
 - Fridays 1:15-2:15 pm in Mayo A444
 - Mondays 3:30-4:30 pm in Mayo A444

V. Course Text and Readings

There is one highly recommended text for this course, and several optional supplementary texts. Several of these are available to read online through the University of Minnesota Library System, to which you have access through your umn email account. The highly recommended book for this course is also on reserve through the library.

Highly Recommended:

Le and Eberly (2016). *Introductory Biostatistics, Second Edition*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Optional textbooks:

Moore, McCabe, and Craig (2014). *Introduction to the Practice of Statistics*, 8th Edition. New York, NY: WH Freeman and Co. 2014.

Diez, Barr, and Çetinkaya-Rundel. *OpenIntro Statistics, 3rd Edition*.

This book is free for download or available for a very low cost through the site <https://www.openintro.org>.

Optional books for SAS or R software:

[Delwiche and Slaughter \(2012\). *The Little SAS Book: a primer, 5th edition*. Cary, NC: SAS Institute.](#)

Cody and Smith, *Applied Statistics and the SAS Programming Language, 5th edition*. Upper Saddle River, N.J.: Pearson Prentice Hall, 2006

Everitt and Hothorn, *A Handbook of Statistical Analyses Using R, 2nd edition*. Boca Raton, FL: CRC Press, 2010.

[Kleinman and Horton, *SAS and R: Data Management, Statistical Analysis, and Graphics, 2nd edition*, Boca Raton, FL: CRC Press, Taylor and Francis Group, 2014.](#)

[Dalgaard, *Introductory Statistics with R*. New York, NY: Springer Science+Business Media, 2002.](#)

Recommended alternative sources for SAS and R:

SAS tutorials at UCLA: <http://www.ats.ucla.edu/stat/sas/>

R tutorials at UCLA: <http://www.ats.ucla.edu/stat/r/>

Introduction to R: <http://cran.r-project.org/doc/manuals/R-intro.pdf>

If you search for R questions or code online, the best resources are Stack Overflow and R bloggers:
<https://stackoverflow.com/> <https://www.r-bloggers.com/>

Software

Students will require a personal computer and statistical software to complete homework assignments and exams in the course. This course will be taught using SAS and R. Students may choose to use **either one or both** of these programs. R is free and open source. SAS is available free for all students of the School of Public Health; for all other students, SAS can be purchased for a nominal fee under the University's site license; however, when you are no longer enrolled at the University, the site license and the software will eventually expire. Some programs within the University of Minnesota may require either SAS or R for students in their program. You will need to consult with your degree program (or intended program) for their requirements. Other software can be used provided it is statistical software (Excel doesn't count), is approved by the instructor, and the user recognizes that the instructor and TAs will not be able to help the user with statistical analysis and code in the software.

VI. Course instruction

Lecture

- Wednesday lectures will be traditional lectures and will cover the basic statistical concepts of the week. Powerpoint slides will be available through the moodle website. It will take the full two hours, with 5-10 minute breaks.
- Monday lecture will dive further into the theory behind the statistical concepts. Understanding these lectures is not required to be successful in this course; instead, the lectures are designed to provide a deeper understanding of the concepts for those who need it.

Labs

- There will be 14 lab sessions, one per week. **Lab will consist of lectures and practice exercises in both SAS and R.**
- By completing the lab exercises, you will learn how to use the software to conduct the visualizations and analyses related to the topic of the week. Labs will be conducted with both the SAS statistical package (www.sas.com) or the R statistical package and R Studio (www.r-project.org and <https://www.r-project.org/>).
- The lab exercises will NOT be graded. You do NOT need to turn them in.

VII. Course Outline

Week	Week Starts	Topics	Le and Eberly readings	Items due
1	01/16/18	Syllabus review Data types Summarizing categorical data Summarizing quantitative data	Section 1.1, pages 1-9 Sections 2.1 and 2.2, pages 55-68	<i>No homework</i> <i>No quiz</i> <i>ICA 1 on 1/22</i>
2	1/23/18	Research design Random variables	Sections 14.1 and 14.2 Pages 494-496	<i>Homework 1 due 1/24</i> <i>Quiz 1 1/26-28</i> <i>ICA 2 on 1/29</i>
3	1/30/18	Variability within a sample and a population Variability of samples	Sections 3.2, 3.3, and 3.4.1 Pages 114-128	<i>Homework 2 due 1/31</i> <i>Quiz 2 2/2-4</i> <i>ICA 3 on 2/5</i>
4	2/6/18	Sampling distributions Central Limit Theorem	Sections 4.1, 4.2, and 4.3 Pages 141-157	<i>Homework 3 due 2/7</i> <i>Quiz 3 2/9-11</i> <i>ICA 4 on 2/12</i>
5	2/13/18	Hypothesis testing basics One sample numerical hypothesis test	Sections 5.1 5.2, 5.3, and 7.1 Pages 179-190 and 235-237	<i>Homework 4 due 2/14</i> <i>Quiz 4 2/16-18</i> <i>ICA 5 on 2/19</i>
6	2/20/18	Two sample inference <ul style="list-style-type: none"> Confidence intervals and tests Proportions and means 	Sections 6.3, 7.2, 7.3 Pages 202-206 and 237- 245	<i>Homework 5 due 2/21</i> <i>Quiz 5 2/23- 2/25</i> <i>ICA 6 on 2/26/18</i>
7	2/27/18	Two sample t tests <ul style="list-style-type: none"> Paired t tests Equal variance 		<i>Homework 6 due 2/28</i> <i>Quiz 6 3/2-3/4</i> <i>ICA 7 on 3/5/18</i>
8	3/6/18	No lab on Wednesday 3/7 or Monday 3/19 Class on Wednesday to ask questions about project		<i>Project 1 due Thursday 3/8/18 by 11:55 pm</i>

Spring Break 3/10/18-3/18/18

	3/19/18	Review of first half of semester No lab on Monday		<i>ICA 8 on 3/19/18</i>
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VII. Course Outline

Week	Week Starts	Topics	Le and Eberly readings	Items due
9	3/20/18	2+ groups and numerical data <ul style="list-style-type: none"> • One way ANOVA • Tukey's HSD 	Section 7.5 p. 252-259	<i>No homework due</i> <i>Quiz 7 3/23-3/25/18</i> <i>ICA 9 on 3/26/18</i>
10	3/27/18	2+ groups and categorical data <ul style="list-style-type: none"> • Hypothesis testing for independence • Hypothesis testing for marginal homogeneity (paired data) • Confidence intervals for odds ratios and relative risk 	1.3, 4.4, 6.4-6.6 Pages 18-29, 157-159, and 206-218	<i>Homework 7 3/28/18</i> <i>Quiz 8 3/30-4/1/18</i> <i>ICA 10 4/2/18</i>
11	4/3/18	Correlation Simple Linear Regression	2.4, 4.5, and 9.1 Pages 78-84, 160-162, and 298-316	<i>Homework 8 4/4/18</i> <i>Quiz 9 4/6-4/8/18</i> <i>ICA 11 4/9/18</i>
12	4/10/18	Simple Linear Regression: Inference, Predictions, and Diagnostics		<i>Homework 9 4/11/18</i> <i>Quiz 10 4/13-4/15/18</i> <i>ICA 12 4/16/18</i>
13	4/17/18	Basics of multiple linear regression <ul style="list-style-type: none"> • coefficients 	9.2 Pages 317-333	<i>Homework 10 4/18/18</i> <i>Quiz 11 4/20-4/22/18</i> <i>ICA 13 4/23/18</i>
14	4/24/18	Multiple linear regression <ul style="list-style-type: none"> • Interaction • Model selection 		<i>Homework 11 4/25/18</i> <i>Quiz 12 4/27-4/29/18</i> <i>ICA 14 4/30/18</i>
15	5/1/18	No lab Wednesday 5/2 Class on Wednesday to ask questions about the project		<i>Project 2 due Thursday 5/3/18 by 11:55 pm</i>
<i>Optional Comprehensive Final Exam May 11 8-10 am in Bruininks 512B</i>				

VII. Evaluation and Grading

Weekly work

Homework

- There will be 11 homework assignments each worth 20 points. *We will drop your lowest score at the end of the semester.*
- Homework is posted on the Moodle page in each unit, listing a future due date. **Homework is to be submitted through the Moodle page using the link at the bottom of the assignment. Homework should be in pdf format and should be labeled with the homework number and your name.** Homework is often due on Wednesday by 10 am. Homework is late if it is submitted after the due date; please make sure you upload, send, and receive confirmation before 10 am.
- Do not email the homework to the instructor or the TAs. Emailed homework will not be considered to be on time and will not be graded.
- Many homework assignments will be made up of problems from the textbook (Le and Eberly) AND questions that require learning and using statistical software. Similar problems may be covered step-by-step in the lab in the week before the assignment is due. You are NOT required to use SAS or R to do the problems that require statistical software; you may use another statistical software package of your choosing. However, course staff cannot offer assistance with any other package besides SAS and R.
- We encourage you to work together in computing and discussing the problems. However, **each student is expected to independently write up the submitted assignment using her or his own computing and giving explanations in her or his own words.** Using your own computing means writing your own code, generating your own graphs and output, and editing and incorporating that output in a final version. Copying someone else's code or using their graphics or statistical output is not allowed.
- **Please include only relevant computer code and output in line with the question they answer** to what you turn in. **Do not** supply code or output as an appendix at the end of your assignment. The code and associated output should be supplied for any number you use in answering the question. In a sense, the code and output function as your "citation" supporting your data and conclusions. Extraneous code or, especially, extraneous output should not be included.
- **Homework may be submitted up to 24 hours late at a 4 point penalty.** Answer keys for the homework will be posted in moodle on the Thursday after the homework is due, so homework that is more than 24 hours late will not be accepted. Extensions may be requested from the instructor in advance of the original due date and may be granted at the instructor's discretion.

In class activities

- There will be 14 in class activities each worth 10 points. *We will drop the four lowest scores at the end of the semester.*
- In class activities will happen on Mondays during class time and any work must be submitted through moodle or according to the instructor's directions by the **end of the class on Monday.** In Class Activities must be done during class and cannot be made up.
- It is in your best interest to bring a laptop to class if you have one (and submitted as a word document), although it will be possible to submit your work using a smartphone (by taking a picture of your work).
- Even though you will be submitting your individual work, you will also be expected on many activities to work collaboratively with your table to answer the questions. **One person per table is expected to compile answers into a collaborative answer for the table.** These compiled answers will be reviewed by the instructor and compiled into a homework guide.
- The grade on your in class activity will be largely participatory.

Quizzes

- There will be 12 content quizzes each worth 20 points. *We will drop your two lowest scores at the end of the semester.*
- Quizzes will be open in our moodle site each weekend (Friday 3 pm –Sunday 11:55 pm) and are a quick review of the concepts presented in the reading assignment and Wednesday’s lecture. These quizzes will consist of either multiple choice or true/false questions.
- You will have **one hour** total to finish the quiz, although the intent will be to design a quiz that takes around 15 minutes.
- You may use lecture notes and the textbook to answer the questions. However, students are expected to answer the quizzes individually; **sharing of resources or answers between students is not permitted.**

Comprehensive work

Projects

Project 1 will be due week 8 (before spring break). Project 2 will be due week 15 (the end of the semester). Each project will be worth 250 points. This is an individual project; students may use course materials but will need to perform the analysis and write up the results on their own.

Each student will be given a unique set of data to analyze and will be expected to write a 2-3 page report with the following sections:

- **Summary of the research:** Write a paragraph describing the research, including research design and variables of interest.
- **Summary of the data:** Write a paragraph and create graphs to summarize the data and check assumptions for analysis.
- **Statistical inference:** Present the statistical inference, including both tests and intervals, that answer the question, and justify your analysis method.
- **Conclusion:** Summarize the results in the context of the problem and describe any limitations.

Optional final comprehensive exam

There will be an optional final exam worth 250 points. The exam will take place on Friday, May 11 from 8-10 am in our classroom.

- The exam will be open book and notes. However, use of computers or phones is prohibited; instead, students should bring a calculator with them to the final exam that is not linked to the internet.
- **The score on the optional comprehensive exam will replace a student’s lowest project grade *provided it is higher than the lowest project grade.***
- There will be an online practice exam available during finals week.

Grading

- Final grade weights
 - Homework Total: 20%
 - In class Activity Total: 10%
 - Project 1: 25%*
 - Project 2: 25%*
 - Quiz Total: 20%

* The optional final comprehensive exam, if taken, will be worth 25% of the final grade and will replace the lowest project grade *if it is higher than that grade.*

- The grading scale based on the *total* percentage will not be higher than the following cutoffs:
 - 95-100 A
 - 90- <95 A-
 - 87- <90 B+
 - 83- <87 B
 - 80- <83 B-
 - 77- <80 C+
 - 73- <77 C
 - 70- <73 C-
 - 65- <70 D+
 - 60-<65 D
 - <60 F

S Represents achievement that is satisfactory, which is equivalent to a C- or better.

For additional information, please refer to: <https://policy.umn.edu/education/gradingtranscripts>

Course Evaluation

The SPH will collect student course evaluations electronically using a software system called CourseEval: www.sph.umn.edu/courseeval. 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 grades just 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. 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.

Incomplete Contracts

A grade of incomplete “I” shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an “I” requires that a contract be initiated and completed by the student before the last official day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. **The student must then initiate the incomplete contract available through www.sph.umn.edu/grades.** Extension for completion of the work will not exceed one year (or earlier if designated by the student’s college). For more information and to initiate an incomplete contract, students should go to SPHGrades at: www.sph.umn.edu/grades.

University of Minnesota Uniform Grading and Transcript Policy - A link to the policy can be found at onestop.umn.edu.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester courses) can be found at <https://onestop.umn.edu/academics/change-grade-basis> .

Course 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 Office of Admissions and Student Resources at sph-ssc@umn.edu for further information.

Student Conduct Code

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. Similarly, 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.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see:

https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Use of Personal Electronic Devices in the Classroom

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: <https://policy.umn.edu/education/studentresp.html>

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test 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, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf). If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:

<http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html>

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <https://communitystandards.umn.edu>. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <https://policy.umn.edu/education/makeupwork>

Appropriate Student Use of Class Notes and Course Materials

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see:

<https://policy.umn.edu/education/studentresp>

Sexual Harassment

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy:

https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy:

http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Accommodations

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Services (DS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DS and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course.

For more information, please see the DS website, <https://diversity.umn.edu/disability/>.

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website:

<http://www.mentalhealth.umn.edu>.

The Office of Student Affairs at the University of Minnesota

The Office for Student Affairs provides services, programs, and facilities that advance student success, inspire students to make life-long positive contributions to society, promote an inclusive environment, and enrich the University of Minnesota community.

Units within the Office for Student Affairs include, the Aurora Center for Advocacy & Education, Boynton Health Service, Central Career Initiatives (CCE, CDes, CFANS), Leadership Education and Development – Undergraduate Programs (LEAD-UP), the Office for Fraternity and Sorority Life, the Office for Student

Conduct and Academic Integrity, the Office for Student Engagement, the Parent Program, Recreational Sports, Student and Community Relations, the Student Conflict Resolution Center, the Student Parent HELP Center, Student Unions & Activities, University Counseling & Consulting Services, and University Student Legal Service.

For more information, please see the Office of Student Affairs at <http://www.osa.umn.edu>

Academic Freedom and Responsibility:

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

* Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".

Student Academic Success Services (SASS): <http://www.sass.umn.edu> : Students who wish to improve their academic performance may find assistance from Student Academic Support Services. While tutoring and advising are not offered, SASS provides resources such as individual consultations, workshops, and self-help materials.

Latest update: 1/15/18 MDS