

Term Information

Effective Term Summer 2021
[Previous Value](#) [Spring 2017](#)

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Adding a 100% DL option. Minor edit to the course description.

What is the rationale for the proposed change(s)?

To give flexibility in how we offer some of our undergraduate major and minor courses.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

None

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Statistics
Fiscal Unit/Academic Org	Statistics - D0694
College/Academic Group	Arts and Sciences
Level/Career	Undergraduate
Course Number/Catalog	3302
Course Title	Statistical Modeling for Discovery II
Transcript Abbreviation	Stat Model Disc 2
Course Description	This course investigates advanced statistical models for data analysis. The regression methods developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. Commonly used statistical methods for exploring and analyzing multivariate data are introduced. Interpretation and communication of the results of analyses is emphasized.
Previous Value	Statistical models for data analysis and discovery in big-data settings. The regression methods developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. An introduction to some of the most commonly used statistical methods for exploring and analyzing multivariate data is provided. Interpretation and communication of the results of analyses is emphasized.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 12 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	Yes
Is any section of the course offered	100% at a distance
Previous Value	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No

Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Prereq: (C- or better in 3301) and (Math 2568 or Math 5520H); or permission of instructor.
<i>Previous Value</i>	<i>Prereq: C- or better in 3301, and Math 2568; or permission of instructor.</i>
Exclusions	
Electronically Enforced	No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	27.0501
Subsidy Level	Baccalaureate Course
Intended Rank	Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes	<ul style="list-style-type: none">• Build, fit and interpret statistical models for binary outcomes• Understand the difference between nominal and ordinal outcomes and build regression models that are appropriate for each• Recognize the types of questions that can be answered by regression models for multi-category data and structure models to answer those questions• Comprehend the statistical principles that underlie basic methods of multivariate data analysis
Content Topic List	<ul style="list-style-type: none">• Logistic regression• Regression for data with multi-category outcomes• Introduction to multivariate data• Multivariate normal distribution• Principal components analysis• Linear and quadratic discriminant analysis
Sought Concurrence	No

COURSE CHANGE REQUEST
3302 - Status: PENDING

Last Updated: Vankeerbergen, Bernadette
Chantal
11/24/2020

Attachments

- STAT3302_INPERSON.docx: In-person Syllabus
(Syllabus. Owner: Craigmile, Peter F)
- DL_checklist_Stat 3302.docx: ASC Tech DL checklist
(Other Supporting Documentation. Owner: Craigmile, Peter F)
- STAT3302_ONLINE.docx: DL Syllabus
(Syllabus. Owner: Craigmile, Peter F)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Craigmile, Peter F	11/18/2020 10:39 AM	Submitted for Approval
Approved	Craigmile, Peter F	11/18/2020 01:21 PM	Unit Approval
Approved	Haddad, Deborah Moore	11/18/2020 03:33 PM	College Approval
Pending Approval	Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Oldroyd, Shelby Quinn Vankeerbergen, Bernadette Chantal	11/18/2020 03:33 PM	ASCCAO Approval



THE OHIO STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

SYLLABUS: STAT 3302 (ONLINE) STATISTICAL MODELING FOR DISCOVERY II

Course overview

Instructor

Instructor: TBD

Email address: TBD

Office hours: Virtual Hours via Carmen Zoom. Days and times TBD.

Office Location: TBD

Grader or Teaching Assistant

Will be announced later.

Course description

This course investigates advanced statistical models for data analysis. The regression methods developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. Commonly used statistical methods for exploring and analyzing multivariate data are introduced. Interpretation and communication of the results of analyses is emphasized.

Course learning outcomes

By the end of this course, students should successfully be able to:

1. Build, fit and interpret statistical models for binary outcomes.
2. Understand the difference between nominal and ordinal outcomes and build regression models that are appropriate for each.

3. Recognize the types of questions that can be answered by regression models for multi-category data and structure models to answer those questions.
4. Comprehend the statistical principles that underlie basic methods for multivariate data analysis.

Course materials

A. J. Dobson and A. Barnett (2008), *An Introduction to Generalized Linear Models*, Third Edition, Chapman & Hall/CRC Texts in Statistical Science.

A. C. Rencher and W. F. Christensen (2012), *Methods of Multivariate Analysis*, Third Edition, Wiley. Available online at <http://onlinelibrary.wiley.com.proxy.lib.ohio-state.edu/book/10.1002/9781118391686>.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenZoom
- Collaborating in CarmenWiki

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 10+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- This class requires you to use the statistical software package called R (The R Project for Statistical Computing; <http://www.r-project.org/>) to illustrate certain aspects. Here is the information for obtaining R.
 - You can download R for Windows, Mac, and Linux, from the CRAN archive at <https://cran.r-project.org>.
 - An in-depth introduction to R is available at <http://cran.r-project.org/doc/manuals/R-intro.pdf>
 - Hands-on tutorials are available in the Swirl system, which you can learn about at <http://swirlstats.com/>. In particular, “R Programming: The basics of programming in R” is an appropriate first tutorial for students who have never used R.
- An easier to use interface to R is available in the software package RStudio. This package is available for Windows, Mac, and Linux and can be downloaded for free from <http://rstudio.org>. **Note that RStudio requires R to be installed.**
- This class requires the use of the (free) R Markdown authoring framework to complete assignments. Information about R Markdown will be provided in class; an online guide with overview information can be found at <https://rmarkdown.rstudio.com>.
- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft’s Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Course delivery

The course will use a mix of **synchronous** and **asynchronous** content.

Required synchronous content will be presented in an online, synchronous class meeting on Mondays. Students are expected to attend and participate in these class meetings (please see “Attendance, participation and discussions” below for further details). The meetings on Mondays will be used to contextualize the previous week’s asynchronous content using examples, discussion and questions, with new material introduced as appropriate. The final few minutes of class will be used to provide an overview of what you should expect to learn as you work through the rest of the week’s asynchronous content.

Required asynchronous content will be made available each Monday on Carmen. This material will include:

- Reading assignments from the textbook.
- A short reading quiz that can be completed on Carmen.
- Videos representing the equivalent of two 55-minute lectures that provide in-depth discussion of the topics for the week.
- Homework problems to help assess your understanding of the material.

The instructor will initiate discussion threads through Carmen. The topics may consist of: additional reading assignments, small computational exercises, comments based on a recent journal article or post in the media. You will be responsible for regularly reading the posts and contributing your work to some of the threads, see *Assignment Information* section below.

The instructors will hold office hours several times during the week via CarmenZoom. The schedule and Zoom links will be posted on Carmen. Students in any section can attend any of these office hours.

The graders for the course will hold virtual office hours several times during the week. The schedule and information for how to attend these virtual sessions will be made available on Carmen.

Grading and faculty response

Grades

Assignment or category	Percentage
Homework	20
Quizzes	15
Participation in Discussion Boards	5
Midterm 1	15
Midterm 2	15
Project	15
Final Exam	15
Total	100

Assignment information

Homework: The goal of homework assignments is to help you learn the material. There will be homework assignments posted on the course website, and they will be typically due once per week, with dates and times provided. Homework problems that require R software should be completed in R Markdown and html or pdf files should be uploaded. Homework problems that do not require R may be handwritten (electronically, or on paper and scanned) and uploaded. **You are encouraged to work together on homework; however, each student must produce their own assignment to be handed in. Do not copy any part of another student's homework.**

Quizzes: The goal of the quizzes is to keep you motivated to read the textbook and keep up with the asynchronous content. There will be weekly quizzes. These will be administered online, through Carmen. There will be a sufficiently large time window, but once you begin taking the quiz there will be a time limit for you to complete it. **The quizzes are open book / open note, but should be completed without any external help or communication.**

Discussion Boards Participation: Throughout the semester, the instructor will initiate online discussion threads. You are required to read each thread and familiarize yourself with the topic. A total of 5% of your grade will consist of your contribution to these discussion threads. You are required to contribute to a minimum of five distinct topics. Your posts will be read and assessed by the instructor and evaluated based on two factors: (1) relevance to the topic and (2) significance of your contribution

Exams: There will be two midterm exams and one final exam. All exams will be delivered remotely, via Carmen. The final exam will take place at the time and date established by the University. Information about the exams will be posted well in advance through the course website. **Exams should be completed without any external help or communication.**

Projects: In groups of 4, students will be responsible for completing a project. The project will consist of analyzing a data set using the tools discussed in the class. More details on the project will be provided later.

Late assignments

Generally late assignments are not accepted and written documentation is required for missed assignments. If you are unable to complete an assignment on time, please get in touch with me *as soon as possible* so we can discuss your situation.

Grading scale

93–100: A
90–92.9: A-
87–89.9: B+

83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

Grading and feedback

For weekly assignments, you can generally expect feedback within **7 days**.

E-mail

I will reply to e-mails within **48 hours on school days**.

Discussion board

I will check and reply to messages in the discussion boards every **48 hours on school days**.

Attendance, participation, and discussions

Student participation requirements

Because this is a distance-education course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation:

- **Logging in: AT LEAST ONCE PER WEEK**
Be sure you are logging in to the course in Carmen each week, including weeks with holidays or weeks with minimal online course activity. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **Live sessions: REQUIRED, EVERY MONDAY**
All live, scheduled events for the course, are required. For live presentations, I will provide a recording that you can watch later.
- **Office hours and live sessions: OPTIONAL OR FLEXIBLE**
Office hours, are optional. If you are required to discuss an assignment with me, please

contact me at the beginning of the week if you need a time outside my scheduled office hours.

- **Participating in discussion forums: AT LEAST FIVE TIMES PER SEMESTER**
As participation, each week you can expect to post several times as part of our substantive class discussion on the week's topics.

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Other course policies

Health and safety

The Ohio State University Wexner Medical Center's Coronavirus Outbreak site (<https://wexnermedical.osu.edu/features/coronavirus>) includes the latest information about COVID-19 as well as guidance for students, faculty and staff.

I expect that you will read and follow the guidelines and requirements for campus safety, which are available at <https://safeandhealthy.osu.edu>.

Student academic services

Student academic services offered on the OSU main campus
<http://advising.osu.edu/welcome.shtml>.

Student support services

Student support services offered on the OSU main campus <http://ssc.osu.edu>.

Academic integrity policy

Policies for this online course

- **Quizzes and exams:** You must complete the midterm and final exams yourself, without any external help or communication. Weekly quizzes should be completed yourself, without any external communication, though you may use your own notes and textbook.
- **Written assignments:** Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.
- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review:** The course includes many opportunities for formal collaboration with your classmates. While study groups and peer-review of major written projects is encouraged, remember that comparing answers on a quiz or assignment is not permitted. If you're unsure about a particular situation, please feel free just to ask ahead of time.

Ohio State's academic integrity policy

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health

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 or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614- 292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273- TALK or at suicidepreventionlifeline.org

Disclaimer

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular we reserve the right to change due dates or the methods of grading and/or assessment if necessary. Any changes will be communicated to you through official course announcements.

Course schedule (tentative)

Week	Dates	Topics, Readings, Assignments, Deadlines
1	Week of Jan 10	Introduction and Motivation, Review of Binomial Model and Maximum Likelihood Estimation
2	Week of Jan 17	Simple Logistic Regression: Model Formulation, Estimation of Parameters
3	Week of Jan 24	Multivariable Logistic Regression
4	Week of Jan 31	Model Evaluation and Diagnostics in Logistic Regression
5	Week of Feb 7	Model Building in Logistic Regression
6	Week of Feb 14	Binomial Regression; Midterm 1
7	Week of Feb 21	Poisson Regression
8	Week of Feb 28	Models for Ordinal and Multicategory Data
9	Week of Mar 7	Introduction to Multivariate Data
10	Week of Mar 21	Multivariate Numerical Summaries
11	Week of Mar 28	The Multivariate Normal Distribution; Midterm 2
12	Week of Apr 4	The Multivariate Normal Distribution, continued
13	Week of Apr 11	Principal Components Analysis
14	Week of Apr 18	Linear Discriminant Analysis; Project due
15	Week of Apr 25	Catch-Up, Review, and Further Directions
FINAL	TBD	Final Exam



THE OHIO STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

SYLLABUS: STAT 3302

STATISTICAL MODELING FOR DISCOVERY II

Course overview

Instructor

Instructor: TBD

Email address: TBD

Office hours: Virtual Hours via Carmen Zoom. Days and times TBD.

Office Location: TBD

Grader or Teaching Assistant

Will be announced later.

Course description

This course investigates advanced statistical models for data analysis. The regression methods developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. Commonly used statistical methods for exploring and analyzing multivariate data are introduced. Interpretation and communication of the results of analyses is emphasized.

Course learning outcomes

By the end of this course, students should successfully be able to:

1. Build, fit and interpret statistical models for binary outcomes.
2. Understand the difference between nominal and ordinal outcomes and build regression models that are appropriate for each.

3. Recognize the types of questions that can be answered by regression models for multi-category data and structure models to answer those questions.
4. Comprehend the statistical principles that underlie basic methods for multivariate data analysis.

Course materials

A. J. Dobson and A. Barnett (2008), *An Introduction to Generalized Linear Models*, Third Edition, Chapman & Hall/CRC Texts in Statistical Science.

A. C. Rencher and W. F. Christensen (2012), *Methods of Multivariate Analysis*, Third Edition, Wiley. Available online at <http://onlinelibrary.wiley.com.proxy.lib.ohio-state.edu/book/10.1002/9781118391686>.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for this course

- Basic computer and web-browsing skills
- Navigating Carmen

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 10+)

Necessary software

- This class requires you to use the statistical software package called R (The R Project for Statistical Computing; <http://www.r-project.org/>) to illustrate certain aspects. Here is the information for obtaining R.
 - You can download R for Windows, Mac, and Linux, from the CRAN archive at <https://cran.r-project.org>.
 - An in-depth introduction to R is available at <http://cran.r-project.org/doc/manuals/R-intro.pdf>
 - Hands-on tutorials are available in the Swirl system, which you can learn about at <http://swirlstats.com/>. In particular, “R Programming: The basics of

programming in R” is an appropriate first tutorial for students who have never used R.

- An easier to use interface to R is available in the software package RStudio. This package is available for Windows, Mac, and Linux and can be downloaded for free from <http://rstudio.org>. **Note that RStudio requires R to be installed.**
- This class requires the use of the (free) R Markdown authoring framework to complete assignments. Information about R Markdown will be provided in class; an online guide with overview information can be found at <https://rmarkdown.rstudio.com>.
- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft’s Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Course delivery

The course will meet three times a week. Students are expected to attend and participate in these class meetings.

The instructors will hold office hours several times during the week. The schedule will be posted on Carmen. Students can attend any of these office hours.

The graders for the course will hold virtual office hours several times during the week. The schedule will be made available on Carmen.

Grading and faculty response

Grades

Assignment or category	Percentage
Homework	20
Midterm 1	20

Midterm 2	20
Project	20
Final Exam	20
Total	100

Assignment information

Homework: The goal of homework assignments is to help you learn the material. There will be homework assignments posted on the course website, and they will be typically due once per week, with dates and times provided. Homework assignments should be turned in electronically via Carmen. Homework problems that require R software should be completed in R Markdown and html or pdf files should be uploaded. Homework problems that do not require R may be handwritten (electronically, or on paper and scanned) and uploaded. **You are encouraged to work together on homework; however, each student must produce their own assignment to be handed in. Do not copy any part of another student's homework.**

Exams: There will be two midterm exams and one final exam. The final exam will take place at the time and date established by the University. Information about the exams will be posted well in advance through the course website. **Exams should be completed without any external help or communication.**

Projects: In groups of 4, students will be responsible for completing a project. The project will consist of analyzing a data set using the tools discussed in the class. More details on the project will be provided later.

Late assignments

Generally late assignments are not accepted and written documentation is required for missed assignments. If you are unable to complete an assignment on time, please get in touch with me *as soon as possible* so we can discuss your situation.

Grading scale

93–100: A
 90–92.9: A-
 87–89.9: B+
 83–86.9: B
 80–82.9: B-
 77–79.9: C+
 73–76.9: C

70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

Grading and feedback

For weekly assignments, you can generally expect feedback within **7 days**.

E-mail

I will reply to e-mails within **48 hours on school days**.

Attendance and participation

Student participation requirements

The following is a summary of everyone's expected participation:

- **Course meetings:** You are expected to attend all scheduled course meetings. Formal attendance records will not be kept; however, students are responsible for all material covered in class.

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)

Other course policies

Health and safety

The Ohio State University Wexner Medical Center's Coronavirus Outbreak site (<https://wexnermedical.osu.edu/features/coronavirus>) includes the latest information about COVID-19 as well as guidance for students, faculty and staff.

I expect that you will read and follow the guidelines and requirements for campus safety, which are available at <https://safeandhealthy.osu.edu>.

Student academic services

Student academic services offered on the OSU main campus
<http://advising.osu.edu/welcome.shtml>.

Student support services

Student support services offered on the OSU main campus <http://ssc.osu.edu>.

Academic integrity policy

Policies for this course

- **Exams:** You must complete the midterm and final exams yourself, without any external help or communication.
- **Written assignments:** Your written assignments, including homeworks and project write-ups, should be your own original work. In formal assignments, you should cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.
- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review:** The course includes many opportunities for formal collaboration with your classmates. While study groups and peer-review of major written projects is encouraged, remember that comparing answers on a quiz or

assignment is not permitted. If you're unsure about a particular situation, please feel free just to ask ahead of time.

Ohio State's academic integrity policy

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health

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 or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614- 292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273- TALK or at suicidepreventionlifeline.org

Disclaimer

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular we reserve the right to change due dates or the methods of grading and/or assessment if necessary. Any changes will be communicated to you through official course announcements.

Course schedule (tentative)

Week	Dates	Topics, Readings, Assignments, Deadlines
1	Week of Jan 10	Introduction and Motivation, Review of Binomial Model and Maximum Likelihood Estimation
2	Week of Jan 17	Simple Logistic Regression: Model Formulation, Estimation of Parameters
3	Week of Jan 24	Multivariable Logistic Regression
4	Week of Jan 31	Model Evaluation and Diagnostics in Logistic Regression
5	Week of Feb 7	Model Building in Logistic Regression
6	Week of Feb 14	Binomial Regression; Midterm 1
7	Week of Feb 21	Poisson Regression
8	Week of Feb 28	Models for Ordinal and Multicategory Data
9	Week of Mar 7	Introduction to Multivariate Data
10	Week of Mar 21	Multivariate Numerical Summaries
11	Week of Mar 28	The Multivariate Normal Distribution; Midterm 2
12	Week of Apr 4	The Multivariate Normal Distribution, continued
13	Week of Apr 11	Principal Components Analysis
14	Week of Apr 18	Linear Discriminant Analysis; Project due
15	Week of Apr 25	Catch-Up, Review, and Further Directions
FINAL	TBD	Final Exam

Arts and Sciences Distance Learning Course Component Technical Review Checklist

Course: STAT 3302

Instructor: TBD

Summary: Statistical Modeling for Discovery II

Standard - Course Technology	Yes	Yes with Revisions	No	Feedback/ Recomm.
6.1 The tools used in the course support the learning objectives and competencies.	X			<ul style="list-style-type: none"> • Carmen • Office 365 • R Software
6.2 Course tools promote learner engagement and active learning.	X			<ul style="list-style-type: none"> • Zoom lectures • Carmen Discussion boards
6.3 Technologies required in the course are readily obtainable.	X			All are available within Carmen which is free to use.
6.4 The course technologies are current.	X			All items are updated regularly.
6.5 Links are provided to privacy policies for all external tools required in the course.	X			All available privacy policies are included.
Standard - Learner Support				
7.1 The course instructions articulate or link to a clear description of the technical support offered and how to access it.	X			Links to 8HELP are provided, as is a link to R software support.
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	X			a
7.3 Course instructions articulate or link to an explanation of how the institution's academic support services and resources can help learners succeed in the course and how learners can obtain them.	X			b
7.4 Course instructions articulate or link to an explanation of how the institution's student services and resources can help learners succeed and how learners can obtain them.	X			c
Standard – Accessibility and Usability				
8.1 Course navigation facilitates ease of use.	X			Recommend using the Carmen Distance Learning "Master Course" template developed by ODEE and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.
8.2 Information is provided about the accessibility of all technologies required in the course.	X			All available accessibility policies are included.
8.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	X			
8.4 The course design facilitates readability	X			
8.5 Course multimedia facilitate ease of use.	X			All assignments and activities that use the Carmen LMS with embedded multimedia facilitates ease of use. All other multimedia resources facilitate ease of use by being available through a standard web browser

Reviewer Information

- Date reviewed: 11/17/20
- Reviewed by: Ian Anderson

Notes: Good to go!

^aThe following statement about disability services (recommended 16 point font):
Students with disabilities (including mental health, chronic or temporary medical conditions) that have been certified by the Office of Student Life Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office of Student Life Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 614- 292-3307, slds@osu.edu; slds.osu.edu.

^bAdd to the syllabus this link with an overview and contact information for the student academic services offered on the OSU main campus.
<http://advising.osu.edu/welcome.shtml>

^cAdd to the syllabus this link with an overview and contact information for student services offered on the OSU main campus. <http://ssc.osu.edu>. Also, consider including this link in the “Other Course Policies” section of the syllabus.