

# STAT 30301: Probability & Statistics for Business

## Syllabus – Fall 2022

\*\*Registering for this course constitutes your agreement to follow the policies listed in this syllabus.

\*\*The information contained in this syllabus may be subject to change over the course of the semester. Students will be notified of any changes via Brightspace, in Lecture, and in Recitation.

**Lecturer:** Pam Porterfield

**Office:** HAAS 120

**Email:** [pporterf@purdue.edu](mailto:pporterf@purdue.edu)

**Course Coordinator Email:** [stat303coordinator@stat.purdue.edu](mailto:stat303coordinator@stat.purdue.edu)

**CRN:** 16058 and 16059

**Credit Hours:** 3.0

**Pre-requisite:** MA 16010 or higher

### COURSE DESCRIPTION:

This course meets in-person on Tuesdays, Wednesdays, and Thursdays and provides fundamentals for describing data, probability theory, and statistical inference. Topics include exploratory data analysis, discrete and continuous probability distributions, sampling distributions, confidence intervals/hypothesis tests for means, proportions, and variances, and inference about the distributions of categorical variables. Students will utilize Microsoft Excel 2019 or 365.

### LEARNING OUTCOMES: Students will be able to:

1. understand statistical terms, appreciate data displays, use correct notations, and compute and interpret descriptive statistics for data sets and data distributions.
2. effectively communicate basic probability through their understanding of set theory, counting rules, and the fundamental properties related to probability.
3. identify select discrete and continuous probability models/distributions (including the Normal distribution) and use their understanding of these distributions to answer probability questions.
4. to select, carry out, and interpret results from appropriate inference techniques, such as confidence intervals or hypothesis tests, using sample data and their understanding of sampling distributions.
5. Students will use Microsoft Excel to organize, display, and analyze numerical and categorical data.

### REQUIRED MATERIALS:

#### Textbook & Online Learning Platform (MindTap):

**Textbook:** *Modern Business Statistics with Microsoft® Excel®*

**Recommended Purchase:** Cengage Unlimited, 1-term (4 months)

**Author:** Anderson, et. al.

**Publisher:** Cengage

**Edition/Year:** 7<sup>th</sup>/© 2021

**ISBN:** 9780357700037

#### **\*\*NOTES:**

- **MindTap**, an online learning platform for *Modern Business Statistics with Microsoft® Excel®*, is required for this course and is included in the purchase of Cengage Unlimited.
- 1-Term Cengage Unlimited provides for full access to the eBook and MindTap learning platform for ALL semesters in the course sequence. STAT 30301 covers chapters 1-12 in the textbook; MGMT 305 will use the same textbook and cover the subsequent chapters.

#### Other Materials:

- Access to Microsoft Excel 2019 or 365. Available on all campus ITaP lab Windows computers; or through Purdue's [Office 365 Portal](#)
- An activated Purdue University career account and Brightspace
- A Piazza account for content related inquiries, online help/discussions
- A scientific calculator; a graphing calculator is acceptable but not required
- A reliable internet connection

## GRADING POLICIES:

The letter grade cutoffs for this course are: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60%

**Any adjustments to the cut-offs for letter grades, or the use of +/-, will be determined at the discretion of the course coordinator AFTER final exams are graded—there is no guarantee that +/- will be used. Note: Emails requests for special grade considerations or grade “bumps” will not receive a response.**

## GRADE DISPUTES:

Your grades will be posted on the Brightspace Merge course (not the Recitation course). You should check them often to make sure that the posted scores are correct. You are responsible for checking your grades and bringing any discrepancies to the attention of your instructor. This must be done in a timely manner, within one week after the grade is posted; do not wait until the end of the semester.

---

**COURSE GRADES** are determined as follows:

<b>HOMEWORK – 20%</b>
<b>RECITATION ACTIVITIES – 15%</b>
<b>LECTURE QUESTIONS – 4%</b>
<b>COURSE EVALUATION – 1%</b>
<b>EXAM 1 – 20%</b>
<b>EXAM 2 – 20%</b>
<b>FINAL EXAM – 20%</b>

There are no opportunities to complete any additional assignments (i.e., there is **NO “Extra Credit”**).

This course accepts **NO late submissions** for any assignment (technical issues are not grounds for deadline extension).

---

## HOMEWORK (20%):

- Homework is completed online through MindTap which is linked in Brightspace. You will need to purchase access online through Cengage; a Cengage Unlimited subscription provides the eBook and MindTap.
- Homework is due at 11:59pm (ET) on due date; due dates and homework topics are provided in the Course Schedule
- Late homework is not accepted. Homework is never excused.
- You have 2 attempts on each homework assignment, and your higher score counts toward your course grade.
- Your lowest homework grade is dropped from your final grade. If you were sick, had an emergency, had technical difficulties, etc. and missed a HW, this is the one which will be dropped. You do not get to drop an additional low HW score just because you have a good reason for missing a previous one. It is recommended that you start the homework early in the week so that you can make the most of your two attempts.
- Computer difficulties are not a valid excuse for having late homework. It is your responsibility to start the homework early in the week so that you will have time to finish it even if computer difficulties arise. If you experience a problem with the MindTap system, immediately contact technical support using the link in Brightspace.
- There will be time allotted in most recitations to take homework questions.

---

## RECITATION ACTIVITIES (15%):

- Recitation Activities (RAs) are assigned during your recitation session. These activities provide practice connecting your statistical understanding and the use of Excel through guided applications.
- Instruction on and time to begin each RA will be allotted in recitation.
- Most activities will require the use of Excel so it would be helpful to bring a laptop to recitation.
- Recitation Activity topics can be found in the Course Schedule.
- Completed RAs are submitted to Brightspace and are due at 11:59pm (ET) on the Wednesday they are assigned.
- Late submissions are not accepted. RAs are never excused.
- Your lowest recitation activity score is dropped from your final grade; whether it is a 0, an excused absence, or a low score. Only one RA score will be dropped, regardless of reason.

## LECTURE QUESTIONS (4%):

- On most Wednesdays, you will be given time in recitation to complete a set of questions that pertain to the previous week's lectures; see the Course Schedule for details.
  - Lecture Questions (LQ) are an individual task that can be administered at the beginning, middle, or end of your recitation class. You are expected to attend and participate in the entire recitation regardless of when this task is given.
  - Your lowest LQ grade is dropped from your final grade; whether it is a 0, an excused absence, or a low score. Only one LQ score will be dropped, regardless of reason.
  - Open notebook: You are allowed to use your notes to complete the questions.
  - Closed book: You are not allowed to use your textbook to complete the questions.
  - No electronic devices: You are not allowed to use any electronic devices to complete the questions.
  - You will need a calculator (that is not a communication device) for most LQs.
  - If you miss a LQ: The first missed LQ will count as the lowest score which is dropped regardless of reason. If you do have documentation for your absence, you should send that to the course coordinator to keep on file in case you have a 2<sup>nd</sup> missed LQ with documentation later in the semester.
  - The only time a LQ would receive a make-up is in the case of a school-based absence (for example, athletes or a field trip for another class with a note from the advisor or faculty member) or approved absence with notification from the Dean of Students. When possible, the course coordinator should be emailed BEFORE the missed LQ to schedule the make-up. Any make-up LQs must be completed by the end of the day on Friday of the week the original LQ was given.
- 

## EXAMS (60%):

- All exams are in-person, closed book/closed notes, pencil-and-paper exams.
  - The exams may contain multiple choice, matching, short answer, show-your-work, and problem-solving questions.
  - You will be allowed to bring pencils, erasers, a scientific calculator, and **ONE** (8 1/2" x 11", handwritten, both sides) note sheet to each exam; use of printed or photocopied material on a note sheet is **prohibited**.
  - You will be required to turn in your note sheet, it is worth 1 point on the exam. Submitting a note sheet with printed or photocopied material will be considered cheating and you will receive a zero for the exam.
  - Exam 1 and Exam 2 are evening exams and will last exactly one hour.
  - The 2-hour Final Exam will be administered during Finals Week.
  - **There will be NO curving of individual exam grades.**
  - Purdue IDs will be checked at all exams.
  - You must bring a calculator that is not a communication device with you to each exam.
- 

## COURSE EVALUATIONS (1%):

Your feedback is vital to improving education at Purdue. Points will be awarded for submitting in Brightspace proof of completion (i.e. screen shot) of the end-of-semester online course evaluations for both your lecturer and your recitation instructor.

---

## VIRTUAL HELP ROOM via WEBEX:

Assistance with course assignments and material is available online via Webex during select hours on Mon, Tues, Thurs, and Fri each week. A schedule of availability is posted in the "Need Help?" module in Brightspace. Students may "drop-in" during any of the scheduled times.

To join a scheduled session, click the link provided in the "Need Help?" module in Brightspace. A webcam and microphone are not required, but they can help with communication. Please be aware of your personal surroundings if you choose to connect to a Webex room for virtual office hours using a webcam and microphone.

## SECTION CHANGES POLICY:

In the **first week of classes**, all section changes and adds should be completed on your own via the Scheduling Assistant. *Adds will not be allowed after the first week of classes. Section changes will not be allowed after the second week of classes.* The only section changes and adds which could potentially be accommodated after this time are for extreme extenuating circumstances (such as the registrar dropping all your classes due to delayed financial aid disbursement). In such a case, you must contact your instructor. If you change sections, Brightspace will drop all your grades. It is YOUR responsibility to print off your grades from your old Brightspace site and give them to your new instructor within a week of the section change. No student will be allowed into a section that is already full.

---

## COURSE PARTICIPATION EXPECTATIONS:

### ATTENDANCE:

This course follows Purdue's academic regulations regarding attendance, which states that students are expected to be present for every meeting of the classes in which they are enrolled. To experience course success, it is fundamental that you attend all lectures and recitations. Additionally, you are expected to read your textbook for each chapter. You may also wish to take advantage of the many helpful resources in MindTap. When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far **in advance** as possible. For unanticipated or emergency absences, when advance notification to the instructor is not possible, the student should contact the instructor as soon as possible by email or phone. When the student is unable to make direct contact with the instructor because of circumstances beyond the student's control, and in cases falling under excused absence regulations, the student or the student's representative should contact or go to the [Office of the Dean of Students](#) website to complete appropriate forms for instructor notification. Under academic regulations, excused absences may be granted for cases of grief/bereavement, military service, jury duty, parenting leave and emergent/urgent medical situations. For details, see the [Academic Regulations & Student Conduct](#) section of the University Catalog website.

### USE OF TECHNOLOGY POLICY:

Cell phones are not allowed in Lectures or Recitations. Texting, surfing the web, taking pictures of the lecture or recitation slides, and/or recording any part of the lecture or recitation is **PROHIBITED** and disrespectful.

The use laptops and tablets to complete BLANK LECTURE SLIDES and RECITATION ACTIVITIES is acceptable. Handheld calculators (the type that could be used for STAT 30301 exams—not communication devices) are also allowed.

Your full attention during the lectures and recitations is expected; the inappropriate use of technology is disrespectful and distracting to you, your instructor, and to all the students around you. Violation of this policy can warrant penalties that may include public embarrassment, being asked to leave the class (and receiving a 0 for any assignments missed) or being reported to the Dean of Students.

---

## PROTECT PURDUE:

Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the [Office of the Student Rights and Responsibilities](#). See also [Purdue University Bill of Student Rights](#) and the Violent Behavior Policy under University Resources in Brightspace.

If you must miss class due to quarantine/isolation during the semester, please contact the Office of Dean of Students, then email your instructor to communicate about how you can maintain your academic progress. Please note that, according to [Details for Students on Normal Operations for Fall 2021](#) announced on the Protect Purdue website, "individuals who test positive for COVID-19 are not guaranteed remote access to all course activities, materials, and assignments."

## MAKE-UP EXAM POLICY:

- NO exam can be taken before the regularly scheduled exam.
- Every effort is made to accommodate student schedules while also protecting the integrity and security of the exam. Make-up exams must be taken no more than 6 days after the regular exam.
- Valid reasons for missing an exam include university documented absence, illness, and/or a death in your family. Work is not a valid excuse. Forgetting about an exam is not a valid excuse.
- If you must miss an exam due to a class conflict or school trip, you need to complete a “Make-up Exam Request Form” from Brightspace (in the FORMS Module) and submit it to the course coordinator **at least a week in advance** with appropriate documentation included. An example of appropriate documentation includes a class or exam schedule from MyPurdue.
- If you are missing the exam due to an **emergency**, you must **e-mail** the course coordinator with details of your situation and complete the Make-up Exam Request Form (in the FORMS Module) **no later than 9am the day after the scheduled exam**.
- The course coordinator will need to approve your request before your make-up exam will be scheduled.
- Failure to meet these deadlines will result in a grade penalty for the exam.
- For approved students, the make-up exam for the midterm exams will be scheduled for 7:30am within 6 days of the regularly scheduled exam.
- The day & time to make-up the Final Exam will be determined one week before the regularly scheduled Final Exam and be based on the Request Forms received at that time. If you submit your request after the exam has been scheduled, you will have to adjust your schedule to the time that has already been chosen. Usually only one make-up Final Exam will be administered.

---

## ACADEMIC INTEGRITY POLICY:

[Purdue's Honor Pledge](#): “As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.”

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breeches of this value by either emailing [integrity@purdue.edu](mailto:integrity@purdue.edu) or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

**All materials in this course are copyrighted to the Statistics Department. It is a violation of US copyright law to provide copies of the course materials (notes, LQs, homework, exams and solutions) to any person or entity (including websites). That means it is illegal to upload STAT 30301 course materials to ANY website or share electronically. We reserve the right to prosecute any violations of our copyrights.**

Violations of this academic integrity policy will result minimally in a failing grade for the assignment/exam and may result in failing grade for the course. All instances of academic misconduct will be referred to the Office of the Dean of Students for review of the incident and a decision on the student's status with the university.

### On working together via an online forums:

As a Purdue Boilermaker, you know the acceptable ways to collaborate using online discussion boards and group chats. Discussing a homework problem is encouraged but sharing your work on a problem is cheating, which is an academic integrity violation. Posting screenshots of a homework question and using the work & answer that someone posts in response is cheating. When these materials are posted, anyone in the group could be considered to be colluding with the people sharing homework images, work, and/or answers. Please think before using an online chat to ask your classmates to complete a homework problem for you. On the other hand, if you are part of an online group and a student asks you to do a homework problem for them - please do not. Either ignore their request or provide general guidance on how to approach the problem. Providing an answer is cheating. If you are unsure whether a request or response is acceptable, then it probably is not -- please keep your integrity, the integrity of STAT 30301, and the integrity of Purdue at the forefront when working with and helping others both online and in-person so please just **DO YOUR OWN WORK!**

## PROBLEMS OR CONCERNS:

If you have any questions or concerns regarding recitation, please email your TA first and then, if needed, follow-up with the course coordinator. For all other issues contact the course coordinator. You can expect a reply within 24 hours during the work week (M – F, 8am - 5pm) and by the end of the next working day if your email is sent over a weekend or Purdue holiday.

---

## ACCESSIBILITY:

- Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let your instructor know but should also contact the Disability Resource Center at: [drc@purdue.edu](mailto:drc@purdue.edu) or by phone: 765-494-1247.
  - If you require extra time on the exams or in-class assignments you need to complete the Academic Accommodations Agreement (in the FORMS Module) and email it/give it to your instructor as soon as possible.
  - If you use the DRC testing center, you will need to contact the DRC at least a week prior to the regular exam date in order to schedule a time for your exam.
  - **NO** exams will be given prior to the regularly scheduled exam time, including the final exam. The last day to take an exam is SIX days after the date of the regularly scheduled exam.
- 

## MENTAL HEALTH/CAPS INFORMATION:

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available.

- If you find yourself beginning to feel some stress, anxiety, and/or feeling slightly overwhelmed, try WellTrack, <https://purdue.welltrack.com/> Sign in and find information and tools at your fingertips, available to you at any time.
  - If you need support and information about options and resources, please see the Office of the Dean of Students, <http://www.purdue.edu/odos>, for drop-in hours (M-F, 8 am- 5 pm).
  - If you're struggling and need mental health services, contact Counseling and Psychological Services (CAPS) at (765)494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.
- 

## NONDISCRIMINATION AT PURDUE:

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Purdue's nondiscrimination policy can be found at [http://www.purdue.edu/purdue/ea\\_eou\\_statement.html](http://www.purdue.edu/purdue/ea_eou_statement.html)

---

## BASIC NEEDS SECURITY:

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 a.m.-5 p.m. Monday through Friday. Considering the significant disruptions caused by the current global crisis as it related to COVID-19, students may submit requests for emergency assistance from the [Critical Needs Fund](#)



**CAMPUS EMERGENCIES:** In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. You will be made aware of any change via an Announcement in Brightspace and email; You are expected to read your @purdue.edu email on a frequent basis. See below for information on what to do if an EMERGENCY occurs during class---see the last page of this syllabus.

## **EMERGENCY PREPAREDNESS—A MESSAGE FROM PURDUE UNIVERSITY**



For more information click here: [Emergency Preparedness Website](#)

**EMERGENCY NOTIFICATION PROCEDURES** are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building. o Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building. o “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, an active threat including a shooting or a release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency\*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

*\*In both cases, you should seek additional clarifying information by all means possible...Purdue Emergency Status page, text message, Twitter, Desktop Alert, Albertus Beacon, digital signs, email alert, TV, radio, etc.. Click here to learn more about the multi-communication layers for Purdue’s [Emergency Warning Notification System](#)*

### **EMERGENCY RESPONSE PROCEDURES:**

- Click here to review the [Emergency Procedures Guidelines](#)
- Review the **Building Emergency Plan** (see the Emergency Preparedness website or the building deputy) for:
  - o evacuation routes, exit points, and emergency assembly area
  - o when and how to evacuate the building.
  - o shelter in place procedures and locations
  - o additional building specific procedures and requirements.
- View **EMERGENCY PREPAREDNESS AWARENESS VIDEOS** such as "[Run. Hide. Fight.®](#)", a 6-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident.

**FIRE EMERGENCY:** If we hear a fire alarm during class we will immediately suspend class, evacuate the building, and proceed outdoors. Do not use the elevator.

**TORNADO WARNING/SEVERE WEATHER EVENT:** If we are notified during class of a Shelter in Place requirement for a tornado warning or severe weather event, we will suspend class and shelter in lowest level of the building.

**SHELTER IN PLACE:** If we are notified during class of a Shelter in Place requirement for a hazardous materials release, or a civil disturbance, including a shooting or other use of weapons, we will suspend class and shelter in the classroom, shutting the door and turning off the lights.

**MAJOR CAMPUS EMERGENCY:** In the event of a major campus emergency, course requirements, deadlines, and grading are subject to change that may be necessitated by a revised calendar or other circumstances beyond the instructor’s control. Relevant changes to this course will be posted and the course coordinator will send an email.”

**TO REPORT AN EMERGENCY:** Call 911. To obtain updates regarding an ongoing emergency, sign up for Purdue Alert text messages, view [www.purdue.edu/ea](http://www.purdue.edu/ea) .

There are nearly **300 Emergency Telephones** outdoors across campus and in parking garages that connect directly to the PUPD. If you feel threatened or need help, push the button and you will be connected immediately.