# Course Information

**Mathematics 1342 – Statistical Methods**
**Section:** 005, TR 11:00 A.M. – 12:15 P.M.          **Room:** Room 126, Math & Engineering, Levelland

**"Intelligence plus character – that is the goal of true education." – Dr. Martin Luther King, Jr.**

**"True knowledge exists in knowing that you know nothing." – Socrates**

**"There is no end to education. It is not that you read a book, pass an examination, and finish with education. The whole of life, from the moment you are born to the moment you die, is a process of learning." – Jiddu Krishnamurti**

**Instructor:** Joshua Keneda, Ph.D. (Dr. K)

**Email:** jkeneda@southplainscollege.edu

**Office Location:** Levelland Math & Engineering, Room 104

**Office Phone:** (806)-716-4036

**Office Hours:** The office hours schedule is on the Blackboard page. Any student is welcome at any of the office hours.  For in person hours, go to Room 104 in the Levelland Math Building.  For virtual office hours, join the virtual Bb classroom linked under Instructor Information.  Any student can request additional office hours by sending me an email.

**Reference Textbook:** A textbook purchase is NOT required for the course.  You can find supportive materials on the Blackboard page, but the instructor can recommend a textbook if you feel like you need more reading/example material.

**Supplies:** Pencils, a 1.5-inch to 3-inch ring binder (optional) or other note-organizing means, loose-leaf paper (graph paper is recommended), access to smartphone or scanner (for uploading assignments), access to computer/webcam with internet capable of streaming/uploading video (for attending class remotely and taking exams when quarantined). Scientific calculators are allowed on exams, and your instructor has extras that may be borrowed for exam purposes.  Graphing calculators are not required, nor are they allowed in exams.

**Course Access:** Blackboard is the online course management system that will be utilized for this course. This course syllabus, as well as any class handouts, can be accessed through Blackboard.  Lectures may be attended in-person (assuming we have enough space) or via Collaborate on Blackboard.  Lecture videos will be posted on Blackboard within a few days of the recordings. Login at https://southplainscollege.blackboard.com/. Your user name and password should be the same as your MySPC and SPC email logins:
      User name: first initial, last name, and last 4 digits of the Student ID
      Password: Original CampusConnect Pin No. (found on SPC acceptance letter), unless
          already changed

**Expected Engagement:** To maximize the potential to complete this course, a student should attend all class meetings (either in person or remotely), take notes and participate in class, and complete all homework assignments, quizzes, and examinations including final examinations.

**Class Cancellation:** In the event of the class being canceled by the school (for snow days, COVID, etc.), the student will *still* be responsible for the lecture material. The class will continue on the calendar presented unless otherwise noted. All information needed, including a lecture video for the canceled day(s), will be on Blackboard and should be accessed by the student.

**Disclaimer:** The instructor reserves the right to alter the syllabus and/or any class policies as deemed necessary by the instructor or South Plains College and will announce any changes in class.  Any changes to the exam policy or dates will be announced at least one week before the new exam date. If a student has any questions about a change in policy, they should contact/ask the instructor for clarification.

To successfully complete the course objectives, the students must already be prepared to factor algebraic expressions, reduce, add, subtract, multiply, divide, and simplify rational expressions, and simplify, add, subtract, multiply and divide exponential and radical expressions.  It is the responsibility of the student to make sure that they enter the class with basic algebraic skills.  Contact your instructor to request additional review/supportive materials, if necessary.

**Withdrawal:** If you wish to withdraw from this class for any reason, you must initiate the appropriate steps on your own.  You cannot assume that the instructor will drop you from the course, even if you stop attending at any point during the semester. The drop form can be obtained online in MySPC, under the Student Forms and Tools link. The last day to drop the course is on the course/lecture calendar.  If you are still enrolled after the last drop day, you will be receiving a letter grade in the course. Please be aware that SPC may not permit an undergraduate student to drop a total of more than six courses (including any course a transfer student has dropped at another institution of higher education).

**Email Policy:** All students at South Plains College are assigned a standardized SPC e-mail account. Although personal e-mail addresses will continue to be collected, the assigned SPC e-mail account will be used as the official channel of communication for South Plains College. The Student Correspondence Policy can be found at www.southplainscollege.edu. To access the SPC student e-mail account, log in to MySPC and click the SPC Google Mail option under Campus Bookmarks. (Copied from SPC Student Guide)

Since all students have an assigned SPC email, the instructor will only acknowledge, respond, and send emails to your assigned SPC email. This ensures all correspondence from the instructor is received by the intended recipient.  Please mention your class (e.g. Beginning Algebra, Business Math, etc.) in your email, so that your instructor quickly knows which class you're asking about.  Your instructor will generally reply to emails within one business day.

**Final Grading Policy:** All grades are rounded from the tenths place. Upon the submission of grades at the end of the semester, **ALL GRADES ARE FINAL!**

| | |
|---|---|
| 90 or above | A |
| 80 to 89 | B |
| 70 to 79 | C |
| 60 to 69 | D |
| 59 or below | F |

**Assignment Weights**

| Practice Assessment | | 32 points |
|---|---|---|
| *Quizzes* | 10 @ 2 point | 20 points |
| *Homework* | 12 @ 1 point | 12 points |
| Aptitude Assessment | | 68 points |
| *Exams* | 4 @ 12 points | 48 points |
| *Final Exam* | 1 @ 20 points | 20 points |
| **Total Points** | | **100 points** |

**Supplemental materials and a close approximation of your current grade are available throughout the semester on South Plains College's Blackboard server.**

**Exam Corrections:** Students can correct one exam (excluding the final exam) of their choice, before the last day of the class (the last class before Finals Week) to recover fifty percent (50%) of their missed points on that exam. To complete the exam correction, the student will correct the questions missed on the exam on a different sheet of paper and return the corrections, together with the original exam. The instructor will give more details as Finals Week approaches. **This is the only "bonus point" opportunity in the class.**

**Feedback:** Feedback will be available within two weeks of turning in your homework/exams, but usually the instructor will feedback within one week.

**Religious Holy Days:** In accordance with Section 51.911, Texas Education Code, South Plains College will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within seven (7) calendar days after the absence. Students are required to file a written notification of absence with each instructor within the first fifteen (15) days of the semester in which the absence will occur. Forms for this purpose are available in the Student Services Office along with instructions and procedures. "Religious holy days" means a holy day observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code. (copied from current South Plains College catalog)

**Mandated Reporting:** As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Mrs. Crystal Gilster, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Mrs. Crystal Gilster at 716-2362 or cgilster@southplainscollege.edu or go by the Health and Wellness Center. You can schedule time with a counselor by calling 716-2529.

**Holiday/Travel Statement:** If a student has pre-existing plans to travel out of the area during scheduled class times, you must inform the instructor at least two weeks before your planned absences. Failure to do so will result in the forfeiture of any assignments and/or exams that are not completed during your dates of absence. These assignments will not be replaced or allowed for make-up work.

**Homework Policy:** Achieving success in this class will require giving regular effort outside of class, especially by doing homework. If you plan to be successful in this class, expect to spend a <u>minimum</u> of 4 to 6 hours outside of class every week maintaining or increasing your math skills. Homework is a planned practice for students to master the skills taught in class and necessary for higher-level mathematics courses.

Every student must do homework. Homework will be assigned daily. The assigned homework will be available on the South Plains College's Blackboard server, for optional printing. A student's homework will be given full credit if each problem is fully attempted. Points will be lost for incomplete attempts or missing work. Though the homework problems are not graded for correctness, this practice is required to more fully understand each topic and to successfully navigate the quizzes and the exams. The homework that was assigned during the previous week will be scanned to a .pdf by the student (either using a scanner or a smartphone app) and collected on the Blackboard page. <u>No credit</u> will be given for homeworks that are submitted in an incorrect format (e.g. as a .jpg). Due dates will be posted on the Blackboard page. Homeworks that are turned in up to one week late will receive half credit. Homeworks over one week late will receive no credit. <u>Failure to show work on a problem will result in no credit given for that problem.</u>

**Quizzes:** Quizzes will be given in class or through Blackboard to assess if the student is practicing and mastering their math skills (doing homework). Questions will be similar to the questions in the assigned homework. No make-up quizzes will be allowed. If we take more than 10 quizzes during the semester, only your top 10 quiz scores will count toward your semester grade. The other quizzes will be dropped.

**Exams:** Exams are used to assess the amount of the course objectives that the student has mastered. The student's indicated answer will be the answer graded and only one answer will be graded per problem. Tentative exam dates will be noted in the class calendar and announced in class. Exams must be taken in-person unless otherwise noted. Some dishonesty controls (like the use of Proctorio, etc.) may be required at the instructor's discretion. Quarantined students will take the exam online either via Proctorio or in a Zoom meeting with the instructor, and arrangements must be made via email <u>at least two days</u> before the exam to take the exam this way. If these arrangements are made, a working webcam and mic are required to take the exam online. Students have the scheduled class time to take exams and the time scheduled by the college to take the final exam. No student will be allowed to begin an exam after the first person has turned in their exam and left the classroom. If the student does poorly on their first exam, they are <u>required</u> to schedule an appointment to discuss their performance with the instructor in their office. If a student should have to miss an exam, the instructor will consider replacing the missed exam with the final exam score only if the student notifies the instructor <u>at least two days</u> before the exam is missed. Exams can be rescheduled with the instructor, but the request for rescheduling must be made via email <u>at least two days</u> before the exam takes place. If no such arrangements are made and the exam is missed, then the student will receive no credit for that exam.

As stated above, exam days are subject to change. The instructor will announce any changes.

**Final Exam:** There will be a **comprehensive** final exam at the end of the semester. Failure to attempt the final exam will result in a failing grade for the course. The final exam will be given at the scheduled time determined by South Plains College, not during the typical class time. Conflicts in test schedules should be worked out with individual instructors at least a week before the final is administered. A student's library records and all financial records must be clear before the student will be allowed to take final examinations in any course.

**Academic Honesty:** You are expected to uphold the ideas of academic honesty and to follow the instructions given on all assignments and exams. All work that is graded must be your own. This policy applies to all work attempted in this course. If your instructor has reason to believe that this policy is violated the student will receive no credit for the relevant assignment(s) and may be dropped from the course with an **F**, at the instructor's discretion. For more details on what is considered cheating, see the South Plains College catalog.

**Syllabus Content:** The instructor reserves the right to change/update the syllabus/course policies throughout the semester.  Students will be made aware of any changes to the syllabus by email.  The rest of this syllabus contains more detailed information about SPC's policies for this course.

## Expectations of the Instructor

The student is within all rights to expect that the instructor does the following:

➤ Show up, as scheduled, to teach all the information pertaining to the course.
➤ Provide notice of any schedule changes.
➤ Maximize the time allotted for this course by assessing student aptitude for covered information at the close of each lecture, when time permits.
➤ Present the material in a manner that can generally be understood by the majority of the class.
➤ Be accessible to those who need assistance outside of the classroom setting, by way of e-mail or in person, during office hours or reasonably scheduled appointment times.
➤ Hold to any assignment(s) given during the course of the semester unless removed.
➤ Uphold the policies of the college as it pertains to the student's welfare in the course.
➤ Not make any exceptions regarding the dismissal of any student from the course for reasons listed herein.
➤ Allow each student the opportunity to discuss the material presented during the lecture period.
➤ Provide examinations based on the information discussed in class that contains problems which use solving methods *similar* to those assigned from sections pertaining to the exam.

## Expectations of the Student

The instructor is within all rights to expect that the student does the following:

➤ Show up on time, as scheduled, to receive and learn all information pertinent to the course and be mindful of any schedule changes.
➤ If you are going to withdraw from this course, then *all withdrawals must be done by Wednesday, December 4th, 2024*. There will be no withdrawals given after this date.
➤ READ THE SYLLABUS!!! You will remain subject to the criteria outlined herein whether you read this or not, so it is in your best interest to do so!
➤ Take advantage of *all* resources available to you. In the collegiate setting, all students are considered adults and are expected to uphold conduct worthy of such consideration.
➤ Be mindful of the classroom setting and the roles therein. While student tuition is vital to the well-being of this academic institution, this does NOT warrant the concession of an instructor to you in a manner that compromises the integrity of the classroom setting and that of the institution itself.
➤ Bring all materials needed for the course and refrain from bringing anything that is not needed.
➤ Be willing to work together with – **BUT NOT DO WORK FOR** – fellow classmates.
➤ Keep all homework assignments organized in a binder. This will prove to be helpful in preparing for the exams.
➤ *Write all graded work legibly and in pencil only. All work not done in pencil will not be accepted by the instructor and will cause you to receive a grade of zero percent (0%) for the work in question.*
➤ Work homework early enough to get help, if needed.
➤ Turn all electronic devices *off* that have no use in the classroom setting. This means all music players, cellular telephones (or cell phones), pagers, etc. In the event that a cell phone must be on (family emergencies only), then the phone must be on vibrate mode and placed on your desk or table. If an unsanctioned device is in use during an exam, then its grade will be zero percent (0%) and possible removal from the course.
➤ Obtain all missed information and assignments from a fellow classmate. **NO LATE WORK will be accepted!!!**

**South Plains College**
**Common Course Syllabus: MATH 1342**
**Revised December 2022**

**Department:** Mathematics, Engineering, and Computer Science

**Discipline:** Mathematics

**Course Number:** MATH 1342

**Course Title:** Statistical Methods

**Available Formats:** conventional, hybrid, and internet

**Campuses:** Levelland, Downtown Center, Plainview Center, and Dual Credit

**Course Description:** Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing.

**Prerequisite:** Minimum score of 350 on the TSIA1, minimum score of 950 on the TSIA2, a diagnostic score of 6 on the TSIA2, TSI-exempt status, a successful completion with a grade of 'C' or better in MATH 0337, or successful completion of NCBM-0112.

**Credit:** 3 **Lecture:** 3 **Lab:** 0

**Textbook:** *Elementary Statistics: Picturing the World*, Larson and Farber, 2019, 7th Edition, Pearson.

**Supplies:** Please see the instructor's course information sheet for specific supplies.

**This course partially satisfies a Core Curriculum Requirement**: Mathematics Foundational Component Area (020)

**Core Curriculum Objectives addressed:**
- **Communications skills**—to include effective written, oral and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions

**Student Learning Outcomes:** Upon completion of this course and receiving a passing grade, the student will be able to:
1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.

5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

**Student Learning Outcomes Assessment:** A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

**Course Evaluation:** There will be departmental final exam questions given by all instructors.

**Attendance/Student Engagement Policy:** Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor <u>may</u> remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student can not receive an X, the instructor will assign an F.

Plagiarism violations include, but are not limited to, the following:
1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:
1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

**COVID Policy:** If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or get tested for COVID-19.
- Cough, shortness of breath, difficulty breathing
- Fever or chills
- Muscles or body aches
- Vomiting or diarrhea
- New loss of taste and smell

Please also notify DeEtte Edens, BSN, RN, Associate Director of Health & Wellness, at dedens@southplainscollege.edu or 806-716-2376.

1. SPC will follow the recommended 5-day isolation period for individuals that test positive.
   a. **Please note that day 0 is the date of positive test. Day 1 begins the first full day after the date of positive result.**

2. COVID reporting
   a. Please have students and employees notify DeEtte Edens if they have tested positive to verify dates before returning to class or work.
   b. The home tests are sufficient but students need to submit a photo of the positive result. The date of test must be written on the test result and an ID included in the photo. If tested elsewhere (clinic, pharmacy, etc.), please submit a copy of the doctor's note or email notification. Results may be emailed to DeEtte Edens, BSN, RN at dedens@southplainscollege.edu.
   c. A student is clear to return to class without further assessment if they have completed:

The 5-day isolation period, symptoms have improved and they are afebrile for 24 hours without the use of fever-reducing medication.

3. Please instruct students and employees to communicate with DeEtte Edens prior to their return date if still symptomatic at the end of the 5-day isolation.

4. Exposed individuals will not be required to quarantine. If exposed, SPC does request individuals closely monitor themselves. If an individual does become symptomatic, please do not attend class or work and be tested.

**Student Code of Conduct Policy**: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior**.** Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.
South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here:  https://www.southplainscollege.edu/syllabusstatements/.
South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here:  https://www.southplainscollege.edu/emergency/covid19-faq.php.

**SPC Bookstore Price Match Guarantee Policy:** If you find a lower price on a textbook, the South Plains College bookstore will match that price.  The difference will be given to the student on a bookstore gift certificate!  The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester.   The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*.  Online marketplaces such as *Other Sellers* on

Amazon, Amazon's Warehouse Deals, *fulfilled by* Amazon, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request.  Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases.   Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

# Math 1342-005 Tentative Schedule          Fall 2024

Homework Assignments are **_assigned_** (not due) on the day shown in the chart.

| Date | Topic | Assignments |
|---|---|---|
| **Outline for Exam 1 – Manipulating and Analyzing Data** | | |
| **Tuesday, August 27** | Introduction/Descriptive and Inferential Statistics | Read syllabus, 1.1 |
| **Thursday, August 29** | Variables and Data, Experimental Design | 1.2, 1.4 |
| **Tuesday, September 3** | Organizing and Presenting Data | 2.1, 2.2 |
| **Thursday, September 5** | Presenting Data (cont.), Distribution Shapes | 2.2, 2.4 |
| **Tuesday, September 10** | Measuring the "Center" of a Dataset | 3.1 |
| **Thursday, September 12** | Measuring the "Spread" of a Dataset | 3.2 |
| **Tuesday, September 17** | Percentiles, Boxplots, Outliers | 3.4 |
| **Thursday, September 19** | Review/Practice for Unit 1 | |
| **Thursday, September 26** | **Exam 1 (12 points)** | |
| **Outline for Exam 2 – Modeling Uncertainty and Chance** | | |
| **Tuesday, September 24** | Correlation of Variables, Linear Regression | 10.1, 10.2 |
| **Tuesday, October 1** | Basic Probability Theory, Rules of Probability | 4.1, 4.2 |
| **Thursday, October 3** | Rules of Probability (cont.), Independence | 4.3 |
| **Tuesday, October 8** | Random Variables, Probability Distributions | 5.1, 5.2 |
| **Thursday, October 10** | Mean, Variance, and Standard Deviation, Binomials | 5.2, 5.3 |
| **Tuesday, October 15** | Finish Binomials, Review | 5.3 |
| **Thursday, October 17** | **Exam 2 (12 points)** | |
| **Outline for Exam 3 – Normality and Confidence** | | |
| **Tuesday, October 22** | Normally-Distributed Variables, $z$-scores | 6.1 |
| **Thursday, October 24** | Applications of the Normal Distribution | 6.2 |
| **Tuesday, October 29** | The Central Limit Theorem | 6.3 |
| **Thursday, October 31** | Normal Distributions Lab | 6.1 – 6.3 |
| **Tuesday, November 5** | Confidence Intervals (known $\sigma$), $t$-distribution | 7.1 |
| **Thursday, November 7** | Confidence Intervals (cont., unknown $\sigma$) | 7.2, 7.3 |
| **Tuesday, November 12** | Finish Confidence Intervals, Review | 7.3 |
| **Thursday, November 14** | **Exam 3 (12 points)** | |
| **Outline for Exam 4 – Hypothesis Testing** | | |
| **Tuesday, November 19** | Ch. 8 Overview, Hypothesis Testing for a Mean $\mu$ | 8.1, 8.2 |
| **Thursday, November 21** | Hypothesis Testing for $\mu$ (cont.) | 8.3 |
| **Tuesday, November 26** | Testing for a Proportion $p$ | 8.4 |
| **Thursday, November 28** | **No Class (Thanksgiving Holiday)!** | |
| **Tuesday, December 3** | Testing for Differences Between Two Populations | 9.1, 9.2 |
| **Wednesday, December 4** | **Withdrawal (Drop) Deadline!** | |
| **Thursday, December 5** | **Exam 4 (12 points)** | |
| **Comprehensive Final Exam** | | |
| **Tuesday, December 10** | **Final Exam (20 points) – 10:15am – 12:15pm** | |