

2026 Fall Statistical Reasoning (MATH-153)

MATH-153

Fall 2026 | 3 Credits | 09/01/2026 to 03/05/2027 | Modified 05/15/2026

Course Description

MATH 153 is an algebra-based probability and statistics course which covers descriptive statistics, probability, binomial and normal distribution, confidence intervals, and hypothesis-testing. Correlation and regression are also introduced.

Course Date(s): (Insert term and dates here)

Course Meeting Times: (Insert meeting times here or online)

Course Location: (Insert room here; for online course, identify course web site here)

Instructor: (Insert instructor name and contact information here.)

Required: name, office hours and location, phone and/or email; Recommended: contact method preferred

Office Hours: (Insert if applicable)

Course Materials:

Textbook Title: (Place here)

ISBN: (Place here)

Publisher: (Place here)

Materials: (Include other materials needed for this course;

Distinguish between required and recommended/supporting materials.)

Institutional Student Learning Outcomes

Institutional Student Learning Outcomes:

- Communication: Students will effectively respond to the needs of various audiences by employing appropriate written, oral, and interpersonal methods.
- Critical Thinking: Students will critically think in a disciplined and evaluative manner, to analyze and interpret processes by which various claims are made, and reliable conclusions are reached.
- Civic and Global Learning: Students will develop the skills and knowledge to be socially responsible and engaged citizens in their workplaces, nation, and the global community.

Program Outcomes

General Education Program Outcomes:

1. Higher-level thinking which uses qualitative and quantitative reasoning.
2. Effective written, oral, visual, electronic and/or other modes of communication.
3. Functional knowledge of connections among themes and patterns in the social and natural world.

GEM Outcomes

GEM 3: Mathematical Ways of Knowing

- Interpret mathematical concepts
- Represent information/data
- Use appropriate strategies/procedures when solving mathematical problems
- Draw reasonable conclusions based on quantitative information

Course Outcomes

Course Level Learning Outcomes

- MATH 153.1: Find a point estimate using technology or by hand
- MATH 153.2: Create a histogram by hand or with technology
- MATH 153.3: Use graphs to answer questions
- MATH 153.4: Answer probability questions
- MATH 153.5: Use the normal distribution to answer probability questions
- MATH 153.6: Find a confidence interval
- MATH 153.7: Perform a full hypothesis test
- MATH 153.8: Use given data set to find a regression line and make a prediction

Grading & Assignments

Student learning will be evaluated through a variety of measures, including assignments, projects, discussions, and assessments. All assessments are aligned with the Idaho Content Standards and are designed to promote critical thinking and the application of learning. Students are expected to complete and submit assignments, assessments, and projects by the due dates in the course pacing guide and to follow academic honesty guidelines for all work submitted.

Each student's overall percentage for the course will be calculated using the following categories and weights:

Category Weights

Coursework/Unit Exams - 80%

Final Exam - 20%

TOTAL - 100%

CEI grading scale ([refer to CEI catalog](#)):

Grade	Points	Percentage
A	4.0	93% - 100%
A-	3.7	90% - 92%
B+	3.3	87% - 89%
B	3.0	83% - 86%
B-	2.7	80% - 82%
C+	2.3	77% -79%
C	2.0	73% -76%
C-	1.7	70% - 72%
D+	1.3	67% - 69%
D	1.0	63% - 66%
D-	0.7	60% - 62%
F	0.0	0% -59%

Final Exam Policy:

Students are required to complete the Final Exam to earn credit for this course. Failure to complete the Final Exam will result in a course grade of 10%

Hourly Expectation per Week

Students should plan on working 7-10 hours per week for a 16-week course and 10-15 hours per week for a 12-week course, in addition to live sessions (if applicable). This time includes reading, assignments, discussions, studying for assessments, and project work. Some students may need more time, and some may need less time each week. Please make sure that you are using the amount of time that is right for you to be successful in this class. Maintaining a consistent schedule and following the pacing guide are key to success.

Student Communication

Students should log in to their course and check messages/emails at least five days a week. Complete required orientations before beginning coursework. Communicating regularly with your instructor, asking questions when you need clarification, and responding promptly to feedback. Collaborate with peers in group work and discussion boards, and use available resources such as eTutoring and technical support.

Teacher Communication

Teachers will provide regular communication, including a welcome message at the start of the course, bi-weekly progress reports, timely responses to questions (within 24 hours), and updates about upcoming deadlines or performance concerns. Teachers will inform students of available resources, such as tutoring and technical support.

Definition of Attendance

Attendance is defined as active participation in course activities, such as submitting assignments, completing assessments, and contributing to discussions. Students are expected to log in regularly and submit work by due dates to maintain pacing.

Assessment and Feedback

Instructor feedback for most assignments will normally be given within 24-48 hours after the due date. Longer assignments (such as formal essays) may require additional time for grading and feedback. Students are encouraged to check their grades weekly to ensure accuracy. Keep copies of all your assignments, as these may be necessary to resolve grading discrepancies.

Student Late Work

Idaho Digital Learning Policy requires that all instructors accept late work for at least 50% of the value of the assignment. Also, many assignments and tests can be redone for an improved grade. Students are encouraged to contact their teachers for additional attempts when needed. For specific course guidelines, please refer to the Contact Information and Late Work Policy within the red Start Here folder within the class.

Cell Phone Use

Students should use cell phones in a manner that supports learning and communication with instructors. Messaging teachers via approved channels (email, course messaging, or, if permitted, text) is acceptable for class-related questions. Parents may opt students out of text communication if they prefer.

Institutional Policies

Academic Freedom, and Course Expectations

In this course, you will explore a range of ideas and perspectives for academic and educational purposes. You are not required to affirm, adopt, or agree with any specific political, religious, or philosophical beliefs in order to succeed. Your grade will be based solely on your academic performance and engagement with course content, not on your personal viewpoints. This approach supports your right to free expression and is in alignment with college policy and Idaho law, which protect both academic freedom and intellectual diversity for students and faculty.

CEI Learning Agreement

At CEI, we value a wide range of perspectives and constructive input. We recognize that students bring different experiences and viewpoints to the classroom. Our goal is to encourage critical thinking, supported by valid evidence, and to foster respectful discussion in all settings. Students should feel at ease sharing their ideas, provided they do so in a manner that is courteous and does not demean others.

Academic Integrity

Academic integrity is the moral code or ethical policy of academia. This includes values such as avoidance of cheating or plagiarism and maintenance of academic standards. Maintaining academic integrity involves: creating and expressing your own ideas in course work; acknowledging all sources of information; completing assignments independently or acknowledging collaboration; accurately reporting results when conducting your own research or with respect to labs; and honesty during exams.

All CEI students are expected to display appropriate conduct while on campus or attending

college-sponsored activities. The College will take appropriate action for any demonstration of academic dishonesty. Academic dishonesty is defined as a willful perversion of truth, stealing, cheating, or defrauding in instructional matters. Students will have engaged in academic dishonesty: If they have copied the work of another without attribution, willfully allowed another to copy their work, falsified information, participated in unauthorized collaboration, obtained an examination prior to its administration, used unauthorized aid(s) during an examination, knowingly assisted someone else during an examination, submitted the work of another as though it were their own, committed other acts of plagiarism, or actions deemed to be dishonest by the instructor.

Violations of academic integrity may be subject to the Student Conduct process. Please see the [Academic Integrity Code, Policy 304 \(https://cei.edu/policy/policy-304-academic-integrity-code\)](https://cei.edu/policy/policy-304-academic-integrity-code).

Policies & Catalog

CEI's student-related policies and procedures can be found in the following places:

1. The CEI catalog has updates on all of our student-related procedures. "Catalog-rights" are given when students are admitted to specific programs. Visit: [CEI Catalog \(https://www.cei.edu/catalog\)](https://www.cei.edu/catalog).
2. Some CEI Policies impacting students can be found at [CEI Policies and Procedures \(https://cei.edu/policies-and-procedures\)](https://cei.edu/policies-and-procedures). Policies specifically impacting students: [Student Affairs Policies \(https://cei.edu/hr/policies-procedures/student-affairs\)](https://cei.edu/hr/policies-procedures/student-affairs).
3. Your student handbook has bylaws, policies, procedures and the links above.
4. Students please review the [Student Code of Conduct, Policy 603 \(https://cei.edu/policy/policy-603-student-code-conduct\)](https://cei.edu/policy/policy-603-student-code-conduct).
5. Students can send any concern to [Student.Concern@cei.edu \(mailto:Student.Concern@cei.edu\)](mailto:Student.Concern@cei.edu) or 208-524-3000 (Option 4).

The catalog includes information regarding auditing a class, incomplete grade contracts, transfer credits and withdrawals. For additional information contact the Registrar's Office: 208-524-3000 (Option 4) or [assistant.registrar@cei.edu \(mailto:assistant.registrar@cei.edu\)](mailto:assistant.registrar@cei.edu).

Report a Concern

[Report a Concern \(https://cm.maxient.com/reporting.php?CollegeofEasternID\)](https://cm.maxient.com/reporting.php?CollegeofEasternID) allows you to report any concerning behavior you experience or see others experience on campus. For example, harassment, sexual harassment, assault, food insecurity, homelessness, ethics violations, or students/people otherwise struggling physically, emotionally, mentally, or otherwise. Obviously, if it is an emergency, call 911, but if you want to report any concern, personal, academic, or emotional/mental/physical, you can do so with one of these forms. Reporting can be done either using one's name or anonymously.

Student General Services

- a. Center for New Directions (CND): BLDG 5, RM# 591 / 208-535-5363.
- b. Counseling Center: [CEI Counseling Center \(https://www.cei.edu/counseling-center\)](https://www.cei.edu/counseling-center) / 208-535-5622 to schedule an appointment.

c. Title IX & Equal Opportunity: [CEI Title IX and Equal Opportunity Policy \(Policy 601\)](#)

<https://cei.edu/policy/policy-602-title-ix-equal-opportunity-harassment-and-non-discrimination> / 208-535-5491

d. Financial Aid: BLDG 3, RM# 353 / 208-535-5374 / Email: aid@cei.edu

[.mailto:financial.aid@cei.edu](mailto:financial.aid@cei.edu)). Website: [CEI Financial Aid \(https://www.cei.edu/financial-aid\)](https://www.cei.edu/financial-aid).

e. Student Life: Student Life office located in Building 3, RM#351.

f. Transfer & Transitions: [CEI Transfer and Transitions Services \(https://cei.edu/transfers\)](https://cei.edu/transfers).

Equity and Title X

Equal rights and access are paramount to the student experience at CEI and is the law. “Title IX” specifically refers to a gender equity law passed in 1972 which states that “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance.” A link to all equity, Title IX, and all student-related policies can be found at [CEI Student Affairs HR Policies \(https://www.cei.edu/hr/policies-procedures/student-affairs\)](https://www.cei.edu/hr/policies-procedures/student-affairs) as well as several policies and procedures in our [CEI Catalog \(https://www.cei.edu/catalog\)](https://www.cei.edu/catalog), which is updated yearly.

CEI Title IX policy: [CEI Title IX and Equal Opportunity Policy \(Policy 601\)](#)

<https://cei.edu/policy/policy-602-title-ix-equal-opportunity-harassment-and-non-discrimination>).

Title IX contact information for students: Student.Concern@cei.edu

[.mailto:Student.Concern@cei.edu](mailto:Student.Concern@cei.edu)) OR 208-524-3000 (Option 4).

Student Accessibility Services

ADA Policy - CEI is committed to providing educational opportunities to all qualified individuals. CEI complies with the Americans with Disabilities Act of 1990 (ADA) as amended in 2008 (ADAAA) and Section 504 of the Rehabilitation Act of 1973, which states that no qualified person shall, because of their disability, be denied access to, participation in, or the benefits of, any program or activity operated by the College.

Individuals having questions about accessibility or requesting reasonable accommodations should contact [Student Accessibility Services \(https://www.cei.edu/student-accessibility-services\)](https://www.cei.edu/student-accessibility-services), by visiting Building 3, Student Affairs Office 311B, 208-535-5462; student.accessibility@cei.edu.

Online/Digital Delivery Methods

When registering for a course, take note of the [delivery method](#)

[https://catalog.cei.edu/content.php?](https://catalog.cei.edu/content.php?catoid=3&navoid=164&hl=%22hybrid%22&returnto=search#delivery-method-of-classes)

[catoid=3&navoid=164&hl=%22hybrid%22&returnto=search#delivery-method-of-classes](https://catalog.cei.edu/content.php?catoid=3&navoid=164&hl=%22hybrid%22&returnto=search#delivery-method-of-classes)) (HyFlex,

Lecture, IWC, Hybrid, Online) and familiarize yourself with the parameters of each. Please know that variations from those parameters, should you request any, are at the discretion of the instructor. Your instructor is not obligated to offer accommodations that are not documented through [Student Accessibility Services \(https://www.cei.edu/disability\)](https://www.cei.edu/disability). You are encouraged to work closely with your instructor should a need to deviate from the teaching method arise.

Information Technology (I.T) - Help Desk

The I.T. Help Desk is here to provide computer and software support for students. CEI IT Help Desk They can also help with password resets. Their website is [CEI IT Help Desk \(https://cei.edu/it-help-desk\)](https://cei.edu/it-help-desk) or call 208-535-5444.

Library

The CEI Library provides books, periodicals, audio-visual materials, and online resources designed to support the College's academic programs and courses. The library includes a computer lab and two group study spaces. Fast, free interlibrary loan is available. The library's catalog and databases can be accessed at [CEI Library \(https://www.cei.edu/library\)](https://www.cei.edu/library). Contact information: Nathan Brown, College Librarian: 208-535-5349 or [nathan.brown@cei.edu \(mailto:nathan.brown@cei.edu\)](mailto:nathan.brown@cei.edu); Circulation desk phone number: 208-535-5312.

Testing Center (Optional)

Some exams require proctoring through the Testing Center in Building 1. If you are required to take an exam through the Testing Center, you will need to follow all Testing Center policies and procedures. Failure to do so can result in disciplinary action. Please be aware that all testing needs to be completed by the time the Testing Center closes each day. Hours vary each day and can be found at [CEI Testing Center \(https://www.cei.edu/testing-center\)](https://www.cei.edu/testing-center). You can contact the Testing Center at 208-535-5438 or email [testing.center@cei.edu \(mailto:testing.center@cei.edu\)](mailto:testing.center@cei.edu).

Tutoring Center

The tutoring center provides services for math, science and writing. Make an appointment on our web site: [CEI Tutoring Center \(https://cei.edu/tutoring\)](https://cei.edu/tutoring). Email [tutoringcenter@cei.edu \(mailto:tutoringcenter@cei.edu\)](mailto:tutoringcenter@cei.edu) to see how we can help you succeed! The tutoring center is located in Building 5, Rooms 524 and 593. Call 208-535-5490.

AI Syllabus Statement

Your own intelligence matters most. College is a big investment in yourself. You are putting in time, effort, and money to grow your knowledge and skills at CEI. Your instructors will use many teaching tools, including generative artificial intelligence (AI) like Microsoft Copilot. Technology can help you learn, but your own intelligence is your greatest superpower. We want to help you grow that in every learning opportunity.

- AI Use on Tests and Major Assessments: Generative AI use will not be allowed during most tests and major learning assessments. Your performance may be monitored by your instructor, the testing center, or other proctored methods. This is to ensure that you can demonstrate the required learning without AI's help.
- AI Use in Homework or Other Unmonitored Assessments: You may use AI when completing assignments, though your instructor may recommend when you should avoid AI because it will slow down your learning.
- Citing AI Use: When you use AI on any submitted work, you must cite or explain how AI helped you.
- The assignments and tests are always about showing what you know. Even with AI's help, all

submitted work must represent your own understanding, analysis, and decision-making. You are accountable for the accuracy, originality, and academic integrity of the final submission. Your instructor is authorized to challenge any work that they feel may be plagiarized.

- Plagiarism is the act of presenting work, ideas, or words—including those generated by artificial intelligence—as your own without proper acknowledgment. This includes:
 - Using text, images, code, or ideas from any source, including generative AI tools, without citation or disclosure.
 - Submitting work that does not reflect your own understanding, effort, or original contribution.
- If Plagiarism is Suspected: If your instructor suspects that an assignment or test is plagiarized, they will challenge your understanding. They may ask you to redo the assignment in a supervised setting, explain your thinking, or take a short written or verbal assessment.

If you can't explain or reproduce your work, it may count as plagiarism. This can lead to failing the assignment, failing the class, or other consequences. See Policy 304 (Academic Integrity Code) for an explanation about the process, your rights, and other information.

Disclaimer:

Changes to this schedule may be necessary as this course progresses. When a need to change the schedule arises, students will be informed in advance via an in-class announcement and through email communication.

Course Schedule:

Last day to add/drop:

[Enter Date](#)

Last day to withdraw:

[Enter Date](#)

Below is a table of topics and due dates for units in the Dual Credit Statistic Reason A course.

Unit	Topics	Course Objectives	Dates
1	Unit 1: Exploring One-Variable Statistics & Data Analysis	By the end of Unit 1 you will be able to: <ul style="list-style-type: none">• identify and interpret categorical and quantitative graphs.• calculate and interpret measures of variability.• calculate and interpret measures of center.	Enter Dates
2	Unit 2: Modeling Distributions of Quantitative Data	By the end of Unit 2 you will be able to: <ul style="list-style-type: none">• locate, interpret, and estimate the location of a distribution.• analyze relationships between quantitative variables using density curves and normal curves.	Enter Dates

Unit	Topics	Course Objectives	Dates
3	Unit 3: Exploring Two-Variable Quantitative Data	<p>By the end of Unit 3 you will be able to:</p> <ul style="list-style-type: none"> describe scatterplots and/or interpret correlation. write and/or interpret the equation of a least squares regression line. identify and/or interpret the residual. transform nonlinear data so a linear model is appropriate. 	Enter Dates
4	Unit 4: Collecting Data	<p>By the end of Unit 4 you will be able to:</p> <ul style="list-style-type: none"> identify or describe various types of samples. identify or describe types of bias. distinguish between surveys, observations, and experimental designs. identify or describe a well designed experiment. 	Enter Dates
5	Unit 5: Probability	<p>By the end of Unit 5 you will be able to:</p> <ul style="list-style-type: none"> use simulation to model a random event. model probability rules. calculate and/or interpret conditional or independent probabilities. 	Enter Dates
6	Unit 6: Random Variables	<p>By the end of Unit 6 you will be able to:</p> <ul style="list-style-type: none"> calculate the probability of discrete or continuous random variables. calculate the mean and/or variability of discrete or continuous random variables. calculate the mean, variability, or probabilities involving sum or differences of random variables. 	Enter Dates
7	Unit 7: Binomial and Geometric Distributions	<p>By the end of Unit 7 you will be able to:</p> <ul style="list-style-type: none"> calculate and interpret probabilities, mean, and standard deviations involving binomial distributions. calculate and interpret probabilities, mean, and standard deviations involving geometric distributions. 	Enter Dates
8	Unit 8: Sample Distributions	<p>By the end of Unit 8 you will be able to:</p> <ul style="list-style-type: none"> analyze sampling distributions. use the Central Limit Theorem to establish approximately normal sampling distributions. 	Enter Dates

Unit	Topics	Course Objectives	Dates
		<ul style="list-style-type: none"> calculate the mean, standard deviation, or probabilities of the sampling distribution for proportions, means, difference of proportions, or difference of means. 	
	Finals Week		Enter Dates

Below is a table of topics and due dates for units in the Dual Credit Statistic Reason B course.

Unit	Topics	Course Objectives	Dates
1	Unit 1: Estimating Proportions with Confidence	<p>By the end of Unit 1 you will be able to:</p> <ul style="list-style-type: none"> determine whether the conditions are met for constructing a confidence interval about a population proportion or a difference between two proportions. construct and interpret a confidence interval for a population proportion or a difference between two proportions. use a confidence interval to make a decision about the value of a parameter. 	Enter Dates
2	Unit 2: Testing Claims About Proportions	<p>By the end of Unit 2 you will be able to:</p> <ul style="list-style-type: none"> perform a significance test about a population proportion and/or a difference of proportions. interpret a Type I and a Type II Error in context. 	Enter Dates
3	Unit 3: Estimating Means with Confidence	<p>By the end of Unit 3 you will be able to:</p> <ul style="list-style-type: none"> determine whether the conditions are met for constructing a confidence interval about a population mean or a difference between two means. construct and/or interpret a confidence interval for a population mean or a difference between two means. use a confidence interval to make a decision about the value of a parameter. 	Enter Dates
4	Unit 4: Testing Claims About Means	<p>By the end of Unit 4 you will be able to:</p>	Enter Dates

		<ul style="list-style-type: none"> perform a significance test about a population mean, mean difference and/or a difference of means. 	
5	Unit 5: Chi-Squared Test	<p>By the end of Unit 5 you will be able to:</p> <ul style="list-style-type: none"> perform a chi-square test for goodness of fit. perform a chi-square test for homogeneity. perform a chi-square test for independence. 	Enter Dates
6	Unit 6: Inference for Slope	<p>By the end of Unit 6 you will be able to:</p> <ul style="list-style-type: none"> determine the equation of a least-squares regression line using technology or computer output. construct and/or interpret a confidence interval for the slope b of the population (true) regression line. perform a significance test about the slope b of the population (true) regression line. 	Enter Dates
7	Unit 7: Conducting and Reporting on an Experimental Project	<p>By the end of Unit 7 you will be able to:</p> <ul style="list-style-type: none"> synthesize the skills and knowledge you learned throughout this course to create a culminating experimental project of your own design. 	Enter Dates
8	Unit 8: Comprehensive Review for Semesters A and B	<p>By the end of Unit 8 you will be able to:</p> <ul style="list-style-type: none"> review and practice for the dual credit year-end final exam. 	Enter Dates
	Finals Week		Enter Dates



IDLA Dual Credit Statistical Reasoning

A Syllabus

College of Eastern Idaho - Idaho Digital Learning Alliance
Concurrent Enrollment Program

****This is a dual credit course. There are two separate registration processes for this course: an IDLA registration & the college registration. This means that you can receive both college credit and high school credit on 2 separate transcripts if you complete registration with the university or college. You must use the College Registration information found in this syllabus and register through the college separately. This syllabus includes policies for both the Idaho Digital Learning Alliance and the cooperating university. Please be sure to review the entire syllabus.**

[Course Map & Standards Alignment](#)

Required College Prerequisites:

Algebra 2 with C- or higher

Suggested Placement Guidelines:

CEI Early College Program is open to high school 11th & 12th graders, with a recommended cumulative high school GPA of 2.7. For 10th & 9th graders, a cumulative high school GPA of 3.0 is required.

Compatibility:

This course is Chromebook compatible.

Technical Requirements for Course Activities:

- A laptop or desktop computer less than 6 years old with the latest release of browser and operating system.
- A high-speed internet connection. A current email account.
- Chrome, Edge, or Firefox web browser. A headset with a microphone.
- Create files with a word processor.
- Save, download, and attach files to submit assignments. Work in multiple tabs within an Internet browser.
- Other technical skills will be taught within the course.

Accessibility and Assistive Technology:

Visit the [Accessibility Tools](#) for assistance and information on assistive technology available to you.

Technical Support:

The Resources tab in your class also provides information about how to access technical support and is found under the same Resources tab as the Accessibility and Assistive Technology.

- Phone: 1-208-342-0207
- Email Address: support@idla.org
- Office Hours: 7:00 a.m. to 6:00 p.m. (MST) Monday through Friday

Other Policies:

Visit the [Parent/Student Resources website](#) to obtain information about other policies such as fees, drop deadlines, how to enroll, how grades will be reported, and how to set up your proctored final exam.

Ownership of Materials:

All ownership, copyrights, trademarks, and other rights in Idaho Digital Learning Alliance (IDLA) courses shall remain with Idaho Digital Learning Alliance. Except as expressly authorized, students and schools using Idaho Digital Learning Alliance courses do not have the right to sell, transfer, license, or distribute Idaho Digital Learning Alliance courses in any other format, context, manner, or means or for any other purpose not specifically authorized without Idaho Digital Learning Alliance's prior written consent. All rights not expressly granted to the user are reserved to Idaho Digital Learning Alliance.