

<b>Course Number:</b> MATH 251C-ES eStart Statistics
<b>Hours:</b> 100% Online, Credits - 4.0
<b>Prerequisite(s):</b> MATH 120(X)C or MATH 124(X)C
<b>Term:</b> Spring 2021 (1/19/2021 – 5/7/2021)
<b>Faculty:</b> Valerie LaVoice, MBA
<b>Faculty Accessibility:</b> Appointment via Zoom or by e-mail
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## Course Description

Topics include: basic measurements of central tendency and variability; frequency distributions; probability; binomial, Poisson, Chi-square, Student t, and normal distributions; sampling distributions; estimation of parameters; hypothesis testing; correlation; linear regression. A graphing calculator is recommended.\* (Prerequisite: MATH 120C, MATH 120XC, MATH 124C, or MATH 124XC )

\* See Course Materials for details.

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## Learning Outcomes

### [Educated Person Statement of Philosophy](#)

Upon completion of this course, the student will be able to:

- Identify types of data and sampling methods.
- Identify, create, and interpret common statistical graphs.
- Calculate basic descriptive statistics (central tendency, variation, and position).
- Apply basic probability concepts (addition rule, multiplication rule, complement).
- Identify and solve problems involving discrete probability distributions.
- Identify and solve problems involving continuous probability distributions.
- Apply the Central Limit Theorem to problems involving sampling distributions.
- Calculate a confidence interval estimate of population mean, proportion, or standard deviation.
- Test a claim concerning a population mean, proportion, or standard deviation.
- Calculate and interpret the linear correlation coefficient.
- Produce a linear regression model to solve an application problem.

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## Course Materials and Resources

### Textbooks, Required

**Elementary Statistics MyLab Statistics w Pearson eText -- 18wk Standalone Access**, ISBN: 9780135900826

An access code is required to enroll in *Pearson MyLab Statistics*. All homework assignments and chapter tests will be completed through *MyLab Statistics*. Enrollment includes the textbook as an eBook.

Students who prefer a printed textbook should purchase the loose-leaf textbook bundled with the access code (ISBN: 9780134763705). See [Enrolling in Pearson | MyLab | Statistics](#) on page 5 for more information.

### Technology, Suggested

A TI-84 graphing calculator is strongly suggested. However, the subscription to the *MyLab Statistics* materials includes StatCrunch, a spreadsheet-like program that can be used instead of the calculator to solve problems in the homework assignments and tests in this course.

## Software, Suggested

Students who plan to use a TI-84 calculator in this course would benefit from some additional programs that will simplify solving problems in Chapters 7, 8, and 10. These programs are posted in the **TI-84 Calculator Programs** module in Canvas. Instructions for loading the programs onto your calculator are also provided in this module.

Textbooks, materials, and software are available online at [eFollet](#) unless specified by your instructor.

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## Canvas Orientation

If this is your first time using Canvas at CCSNH, please complete the [Canvas student orientation](#) to familiarize yourself with its navigation and use.

## Available Technical Support

If you need help navigating this course, explore the Canvas Student Guide. The Student Guide, Chat, and Phone offer helpful information and are always found by clicking on the  button on the right side of every page in Canvas.

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## Instructional Approach

The instructor has organized this online course into a series of modules, each containing the following pages:

- Overview and learning objectives related to the course content under study.
- PowerPoint lectures prepared by the instructor that illustrate use of the TI-84 calculator whenever applicable.
- Discussion forum where students are invited to ask, and answer, questions related to the content under study.
- Reading assignment and resources (videos, handouts, web sites, solutions to selected homework problems) to enhance the material presented in the textbook.
- Assignments consisting of homework, weekly preparatory questions, and tests.

Students are expected to read the assigned material, including lectures and supplemental resources, before attempting the homework assignment. Questions on specific homework problems may be forwarded to the instructor through the **Ask My Instructor** feature on the **Question Help** menu in *MyLab Statistics*.

Students are strongly encouraged to participate in the discussion forums to connect with, and get help from, classmates. The instructor monitors these discussions and will engage, if necessary, to clarify or inform. If more in-depth assistance is needed, the student should contact the instructor to arrange for a meeting via Zoom.

Students are strongly advised to keep a notebook containing solutions to homework problems for use as a reference while taking tests.

After satisfactorily completing the homework assignment, the student should be adequately prepared to take the test. The instructor reviews submitted tests and gives detailed feedback on answers marked incorrect by *MyLab Statistics*. This feedback explains how the correct answer could have been obtained, with a focus on using the TI-84 calculator or StatCrunch. Because material in subsequent modules builds upon previously covered material, the student is expected to read these review comments and seek further explanation, if required.

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## Assessment of Learning

### Assignment/Assessment Descriptions

- **Weekly Preparation Questions**

These assignments consist of reading the assigned material (textbook chapter, PowerPoint lecture, and/or video). The student is then expected to submit a typed response on Canvas by answering questions about the readings. The answers do not need to be lengthy, but they need to be long enough to show that the student has grasped the concept presented in the question. Since this class is in an online format, these preparation assignments are of utmost importance to student success.

- **Homework**

All homework assignments (one per textbook section) are to be completed on or before the due date specified in *MyLab Statistics*.

No limits are placed on the number of attempts or time to complete problems.

The student will have access to a wide variety of learning aids while completing homework assignments through the **Question Help** menu, including videos, animations, calculator help, worked-out examples, Help Me Solve This, and Ask My Instructor. (Not all aids are available with every problem.)

In addition, the **Technology Tips** on the **Reading and Resources** page in each Canvas module contains videos and documents provided by the instructor to demonstrate use of StatCrunch and the TI-84 graphing calculator in solving homework problems.

- **Tests**

The student's mastery of the course material is assessed by four tests, to be submitted by midnight on the due date indicated in Canvas. The tests are available for a two-day period. Tests have a 3-hour time limit. The problems on the tests are taken from the homework assignments; therefore, the best way to prepare for tests is to complete the homework assignments each week.

If you have a known conflict with a test due date, you are expected to contact the instructor prior to the test to arrange for a modified due date.

You can suspend activity on a test by closing the test window. The timer will stop and restart when you reopen the test. Do not click the Submit button until you are finished with the test.

To potentially earn additional partial credit for incorrect answers, you are invited (not required) to send photos of your work on test problems to [vlavoice@ccsnh.edu](mailto:vlavoice@ccsnh.edu)—**no later than midnight on the original due date of the test. No work will be accepted for additional partial credit after this date.** Your work must be legible, organized, and clearly identify the problem number being solved. These photos must show how you obtained the submitted answer. In other words, this is not intended as an opportunity to correct errors on the test. Be sure to include your name and the test number at the top of each page.

## Grading Criteria and Grade Calculation

Category	% of Final Course Grade
Weekly Preparation Questions	10%
<i>MyLab Statistics</i> Homework	18%
<i>My Lab Statistics</i> Tests	72%
<b>Total</b>	<b>100%</b>

Grading Schema	
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	< 60

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## Course Schedule

This syllabus is to be used as a guide; it contains information about the course, how it will be taught, what will be required of students, and assessment methods that will be used. All information is subject to change at any time.

Mod	Dates	Sections	Topics	Tests
1	1/19 - 1/23	1-1, 1-2, 1-3	Statistical and Critical Thinking; Types of Data; Collecting Sample Data	
2	1/24 - 1/30	2-1, 2-2	Frequency Distributions; Histograms	
3	1/31 - 2/6	2-3, 3-1	Graphs That Enlighten and Deceive; Measures of Center	
4	2/7 - 2/13	3-2, 3-3	Measures of Variation; Measures of Relative Standing and Boxplots;	<b>Test 1 (Ch. 1 - 3) 2/12 - 2/13</b>
5	2/14 - 2/20	4-1, 4-2	Basic Concepts of Probability; Addition Rule and Multiplication Rule	
6	2/21 - 2/27	4-3, 5-1	Complements and Conditional Probability; Probability Distributions	
7	2/28 - 3/6	5-2, 5-3	Binomial Distributions and Parameters; Poisson Distributions and Parameters	<b>Test 2 (Ch. 4 &amp; 5) 3/5 - 3/6</b>
8	3/7 - 3/13	6-1, 6-2	Standard Normal Distribution; Real Applications of Normal Distributions	
9	3/14 - 3/20		Spring Break	
10	3/21 - 3/27	6-3	Sampling Distributions and Estimators	
11	3/28 - 4/3	6-4, 6-5	Central Limit Theorem; Assessing Normality	
12	4/4 - 4/10	7-1, 7-2	Estimating a Population Proportion; Estimating a Population Mean	
13	4/11 - 4/17	7-3	Estimating a Population Standard Deviation	<b>Test 3 (Ch. 6 &amp; 7) 4/16 - 4/17</b>
14	4/18 - 4/24	8-1, 8-2	Basics of Hypothesis Testing; Testing a Claim About a Proportion	
15	4/25 - 5/1	8-3, 8-4	Testing a Claim About a Mean; Testing a Claim About a Standard Deviation or Variance	
16	5/2 - 5/7	10-1, 10-2	Correlation; Regression	<b>Test 4 (Ch. 8 &amp; 10) 5/6 - 5/7</b>

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## Course Notices

### Obtaining an Access Code Through BryteWave RedShelf

When you purchase your Pearson MyLab Statistics access code through the NHTI Bookstore, your receipt will have a PIN for BryteWave RedShelf. Go to the [BryteWave RedShelf](#) web site and create an account. Then redeem the BryteWave PIN for a Pearson access code, which you will use to enroll when you register with Pearson (see below).

### Enrolling in MyLab Statistics

All homework assignments and tests in this course are to be completed in MyLab Statistics, which is accessible through NHTI Canvas. Students are expected to enroll in MyLab Statistics via the NHTI Canvas course with **permanent (not temporary) access** by no later than **February 1, 2021** (which is the last day to drop the course for a full refund). **Students who fail to meet this deadline are eligible to be dropped from the course as Never Attended.**

**IMPORTANT:** Note that the instructions in the MyLab Statistics w Pearson eText kit assume you will be logging in directly to the Pearson web site to enroll. Your MATH 251C-ES course is connected to Pearson through Canvas, so you **do not need a course ID**.

To enroll in the MyLab Statistics course, follow these instructions:

- 1) In the Canvas navigation panel, click on the **MyLab & Mastering** link.
- 2) Click the  button.
- 3) Accept the **End-User License Agreement**.
- 4) Enter your Pearson account username and password to **Link Accounts**. You have an account if you have previously used a MyLab or Mastering product.

If you do not have a Pearson account, select **Create** and follow the instructions.

**NOTE:** Record your Pearson username and password. While the preferred way to enter the MyLab Statistics course is through Canvas, it is possible to log in directly to the Pearson web site with your username and password should Canvas become unavailable for any reason. A link to the course will appear on your Pearson **My Courses** page after you log in.

- 5) Then, do one of the following:
  - Enter the access code that came with your textbook or that you purchased separately.
  - Buy an access code using a credit card or PayPal.
  - Get temporary access by clicking the link at the bottom of the Access Code page.

**NOTE:** Temporary Access will expire after 14 days. You will need to purchase an access code to convert from temporary to permanent access. **All students must be enrolled in MyLab Statistics with permanent access by no later than February 1, 2021.**

- 6) From the **You're Done** page, select **Go to My Courses**.

Maintaining access to the MyLab Statistics web site is the student's responsibility. If a student enrolls using temporary access, the student is expected to convert to permanent access before the temporary access expires. Assignments from duplicate accounts cannot be merged and, therefore, will **not** be accepted!

Students are responsible for contacting Pearson Technical Support to resolve any problems with creating or logging in to their accounts.

## Faculty Email Response Time

You can expect a response within 12 hours of sending an e-mail.

## Posting of Grades

Grades on homework assignments and tests are continually kept up-to-date automatically by Pearson MyLab Statistics and will be regularly imported into Canvas Grades. Any discrepancy should be reported to the instructor as soon as possible.

## Attendance Policy

Logging into an online class is not sufficient, by itself, to demonstrate academic attendance by the student. Participation is indicated by the student's activity in responding to the weekly preparation questions and in the MyLab Statistics web site, which automatically tracks the time spent on each assignment and test. Attendance can also be demonstrated by engagement in an academically related activity, such as initiating contact with the instructor to ask a course-related question.

A student who has only logged into the online class but has not demonstrated any engagement toward course outcome-specific assignments, or course-content specific discussion participation, will be identified as Never Attended on the official attendance roster. A student who has not completed any assignments for any continuous one-week period without contacting the instructor is subject to termination from the course with a grade of AF. All course work must be completed by **Friday, May 7, 2021**.

## Late Assignment Policy

Students are permitted to continue working on past-due homework assignments, but late problems receive a penalty of 50%. Homework assignments marked Past Due will receive a score of 0 to accurately reflect academic standing.

If you miss a test due date (the test is marked Past Due in MyLab Statistics), you are expected to make up the test within two calendar days of the original due date or by the date assigned by the instructor. A late penalty of 10% on the final score is imposed on a test submitted after the original due date. You must contact the instructor to get access to a missed test.

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## Recommended Sequence for Study

The following is a recommended sequence for study to properly prepare for tests:

- 1) Start with the **Canvas module** to see the learning objectives for the week.
- 2) View the **PowerPoint Lectures** provided by your instructor. These lectures give an overview of the key concepts from the textbook and include examples showing how to use technology to solve application problems similar to those you will encounter in the homework and tests.
- 3) Complete the **reading assignment** given on the *Reading and Resources* page in the current module. The online textbook is available by clicking **eText** or **Chapter Contents** in the *MyLab Statistics* course. (The HTML eBook linked under Chapter Contents is an alternate form of the book that can be read online without the Adobe Reader.)

The online textbook provides animated lessons, example videos, and You Try It problems to help you assess your learning as you go. (The HTML eBook is an alternate form of the book that can be read online without the Adobe Reader.)

- 4) After viewing the learning aids listed above, answer the **Weekly Prep** questions; links to the weekly prep assignments are found in the **Course Summary** on the *Syllabus* page in Canvas. The answers can be brief but should contain enough information to show you understand the concepts from the videos linked on the Weekly Prep assignment page.
- 5) Complete the **online homework assignment** in *MyLab Statistics*. Links to the homework assignments are found in the **Course Summary** on the *Syllabus* page in Canvas. Keep a notebook containing a copy of each homework problem and your worked-out solution to use as a reference while taking tests.

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## Where to Get Help

Here are some suggested things to try if you get stuck:

- Check the *Reading and Resources* page in each weekly module to see if a **Technology Tip** or **YouTube video** deals with the topic. Also check this page for **Selected Solutions**.
- Watch the Pearson **section videos** (including StatTalk videos) to gain insights into statistical concepts and to learn how to solve sample problems. These videos are available through the online textbook or by searching the **Multimedia Library** in *MyLab Statistics*.
- Choose **Ask My Instructor** on the **Question Help** menu in the homework window. An email containing a copy of the problem you are working on and your question will be sent to your instructor who will then respond via email with a solution based on your choice of technology (TI-84 calculator or StatCrunch).
- Request a **Zoom session with the instructor**. These sessions can be private or open to the entire class, similar to office hours. Typically, one or two students in addition to the requesting student might attend these sessions.
- Use **NHTI Online Tutoring** to connect with a tutor from the NHTI Math Lab via Zoom. In Canvas, go to the **Start Here** module and click the *NHTI Learning and Tutoring Resources* link.

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## Academic Affairs Notices

Students are responsible for reading the Academic Affairs Notices, which are posted on the [Academic Affairs Notices](#) web page. These are the same for each course at NHTI and are updated each semester.

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