

**MAT 205-01 INTRODUCTORY STATISTICS (23580) Fall 2015**

**WebAssign Class Key:** hamptonu 2043 5891

**Place:** ST 104

**Time:** MWF 2:00 – 2:50 PM

**Instructor:** Andrzej Makagon

**Credit Hours:** 3

**Office:** ST 333

**Telephone:** 728-6781

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**Office Hours:** MWF 3:00 – 5:00 PM, TR 12:00 – 2:00 PM

**Academic Catalog Course Description.** Descriptive statistics for ungrouped and grouped data. Concepts of probability. Random variables. Binomial and normal distributions. Sampling distributions. Correlation and regression. Hypothesis testing and estimation.

**General Instructional Objectives.** The objective of the course is to expose students to elementary statistical concepts and methods.

**Pre-requisite.** MAT 100 or above (with grade C or better for school of science majors) or by placement.

**Required Textbook.** *C. H. Brase, C. P. Brase, Understanding Basic Statistics, 7-th edition, Cengage Learning* (a package includes the text and *WebAssign* Access Codes) OR standalone *Webassign* Student Access Codes (which comes with an e-book).

**Applied Course Description.** The topics covered include:

1. overview of basic definitions and terms of probability and statistics (Sections 1.1 - 1.3),
2. graphing data, computing and interpreting descriptive statistics (Sections 2.1 – 2.3 and 3.1 – 3.3),
3. correlation and regression (Sections 4.1 – 4.2),
4. basic rules of probability (Sections 1.1-1.3),
5. random variables and probability distributions, binomial distribution (Sections 5.1 – 5.3 and 6.1 – 6.3),
6. normal distribution and sampling distribution theorems (Sections 7.1 – 7.6),
7. hypothesis testing and interval estimation procedures for the mean and proportion (Sections 8.1 – 8.3, 9.1 – 9.3, and 10.1 – 10.3 if time permits),
8. some “real-life” applications

**Specific Intended Student Learning Outcomes.** Students who successfully complete this course will meet the following essential competencies:

1. Data collection and Descriptive Statistics: Know how to compute basic statistics, perform a simple linear regression analysis and construct and interpret statistical graphs. *Assessment: Test 1, Final Exam*
2. Probability Theory: Be familiar with basic concepts and rules of probability, such as the concept of probability, a sample space, addition and multiplication rules, independence, notion of a random variable, and with some standard probability distributions including a binomial and a normal distribution. Understand the concept of sampling distribution, in particular the sampling distribution of the sample proportion and the sample mean. *Assessment: Test 2*
3. Basic Concepts of Statistics: Understand the basic inference procedures and be able to construct a confidence interval and perform hypotheses testing about the population proportion and the population mean. Apply different statistical techniques to various “real-life” problems including recognizing sampling strategy, designing an experiment, performing simulations. *Assessment: Test 3, Final Exam.*

### Minimum Course Competencies.

1. The students will know how to compute basic sample statistics: a sample mean and a sample standard deviation.
2. The students will be able to compute probabilities involving a standard normal distribution.

The minimum course competencies are basic skills that all students should attain in the course. All minimum course competencies will be measured by paper tests or quizzes.

Disclaimer: *Minimum competencies are not directly associated with your final grade in this course. Successful accomplishment of the minimum competencies will demonstrate your basic knowledge of selected Specific Intended Student Learning Outcomes.*

**Grading Policy.** The final course grade will be based on the total number of points accumulated in three in-class tests (50 points each), on-line homework assignments (45 points total), Writing Across Curriculum (WAC) project (5 points), and the final exam (100 points). The midterm grade will be based on the total accumulated before Saturday, October 24. The final course grades will be assigned according to the Hampton University grading scale (in %):

A+	98 -100%	B	84-87%	C-	70-73%	F	Below 60%
A	94-97%	B-	80-83%	D+	68-69%		
A-	90-93%	C+	78-79%	D	64-67%		
B+	88-89%	C	74-77%	D-	60-63%		

Please read the *Student Handbook* regarding the policies on an "I" (incomplete) grade and withdrawal from class.

In-class Tests: Cellular phones, laptops, PDAs and other electronic devices (except calculators) are not permitted during tests. A make-up test will be given only in the case one misses a test for an excused reason, and must be taken prior to the next test. If you have no verifiable excuse, a score of zero will be entered for the test.

Homework Assignments: Homework is posted on *WebAssign* website and students are required to do it before a due date. Homework is to be completed on-line and is computer-graded.

WAC (Writing Across Curriculum) Project: Specifics of the project will be announced later.

Final Exam: The final exam is comprehensive and common for all sections of MAT 205. The place (building and room number) will be announced prior to the examination. No one is exempt from the final for any reason. The final exam rules/procedures are on page 4 of this syllabus.

*(From Student Handbook, 8.10) The examination schedule is printed by the office of the Registrar and should not be altered without approval by the department chairperson and school dean, in collaboration with the Registrar and the Provost. Each course shall be terminated with a final examination or evaluation. The examination grade, combined with the class record for the semester, will constitute the student's final grade. Students who are absent from the final examinations for reasons beyond their control may apply to the appropriate dean of women or men for official verification. Students must also confer with the instructor of the course. It is the responsibility of the instructor to accept, reject, or make individual adjustments for students missing examinations. Detailed rules governing examinations can be found in the Official Student Handbook.*

### Test Dates

Test 1	Monday, September 28
Test 2	Wednesday, October 21
Test 3	Wednesday, December 2
WAC Project due	Wednesday, December 9
Final examination	Saturday, December 12. 1:00 - 2:50 PM (period III), room TBA

## **Expectations of Students.**

Attendance policy: Attendance is necessary. If you miss a class for whatever reason, you are responsible for all materials, assignments and deadlines missed. While office hours provide an opportunity for further clarification of materials covered in class, office hours will not substitute for classes.

WebAssign: *WebAssign* is an interactive website that will be used in this course. All homework assignments will be posted and must be submitted on-line through *WebAssign*.

**Every student must register to *WebAssign*.**

WebAssign Class Key: hamptonu 2043 5891. Registration instruction is on page 5 of this syllabus.

Calculator: Every student must have a calculator with statistical functions, e.g. TI-83 or TI-84. I will be using TI-83. During final examination and in class tests, passing of calculators or storing memos, formulas or notes in a calculator memory are considered cheating and therefore they are treated as a violation of the Honor Code. The instructor reserves the right to reset the calculators during the tests/examination or during the class meetings if needed.

Use of electronic devices: Students are discouraged to use any electronic device for communication purposes during any formal meeting of the course including class, tutorial, tests and examination. They must turn the ringer of their cell/mobile phones to off/vibrate during the formal meetings.

Teaching learning strategies: Each lecture class covers the theory and related examples.

- Before each class please visit Webassign website. From the *Course Calendar* find out which sections are to be covered, and then print corresponding in-class exercises (CW) and bring them to class. You may also print and bring to class lecture notes (LN).
- After each class please read corresponding pages from the text (or e-text) and do homework problems.

It is very important that a student reads the appropriate section from the textbook and completes the assigned homework in order to reinforce the material presented in class. This course is demanding and requires a great deal of work. Difficulties are discussed in one-to-one or group basis during the office hours. It takes time and frequent practice to become comfortable with the material.

**Minimum grade requirement.** The following information applies to all students in the School of Science.

*In addition to the minimum grade requirements established by Hampton University, all majors within the School of Science must pass all required courses offered within the School of Science with a grade of "C" or better in order to satisfy degree requirements. The minimum grade requirement is in effect for all science courses taken during Fall 2001 and beyond.*

**Academic integrity.** Students in this class are expected to uphold the highest standards of academic integrity. Cheating, plagiarism in written work, and receiving and providing unauthorized assistance are among behaviors that constitute violation of the department's policy on academic integrity. You are expected to be familiar with the University's Policy of Academic dishonesty found in the Code of Conduct. In particular

*A student caught cheating on a test/examination or plagiarizing a paper, which forms part of the course, shall be given an "F" in the course and will be subject to dismissal from the University.*

All students are required to strictly adhere to the University Code of Conduct.

**International students.** All non-U.S. citizens please contact Dr. Ann M. Moore, the International Student Advisor at extension 6922 or e-mail [ann.moore@hamptonu.edu](mailto:ann.moore@hamptonu.edu) for further advice to complete the Federal Requirements.

**504 compliance.** Students requiring special accommodations as specified in Section 504 of the Americans with Disabilities Act must inform the instructor immediately.

**Other important dates.**

- End of the Add and Drop Period – Friday, September 4
- Labor Day (no classes) – Monday, September 7
- Mid-Semester Evaluations – October 19 - 23
- End of period to withdraw from a class with records showing withdrew passing (WP) or withdrew failing (WF) - .Friday, November 6
- Thanksgiving Break – November 25 - 29
- Reading Day – Friday, December 11

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**DISCLAIMER: This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the professor reserves the right to modify, supplement and make changes as the course needs arise.**

CODE OF CONDUCT

Joining the Hampton Family is an honor and requires each individual to uphold the policies, regulations, and guidelines established for students, faculty, administration, professional and other employees, and the laws of the Commonwealth of Virginia. Each member is required to adhere to and conform to the instructions and guidance of the leadership of his/her respective area. Therefore, the following are expected of each member of the Hampton Family:

1. To respect himself or herself.
2. To respect the dignity, feelings, worth, and values of others.
3. To respect the rights and property of others and to discourage vandalism and theft.
4. To prohibit discrimination, while striving to learn from differences in people, ideas, and opinions.
5. To practice personal, professional, and academic integrity, and to discourage all forms of dishonesty, plagiarism, deceit, and disloyalty to the Code of Conduct.
6. To foster a personal professional work ethic within the Hampton University Family.
7. To foster an open, fair, and caring environment.
8. To be fully responsible for upholding the Hampton University Code.

RULES FOR THE COMMON FINAL EXAM

1. The university's honor code applies during the examination period.
2. Students must bring their HU student (picture) ID and keep it displayed during the examination period.
3. Students must adhere to the seating assignment.
4. No student will be allowed to enter the examination room 30 minutes after the scheduled starting time of the exam.
5. Students should bring only items that are essential and must avoid bringing large pocket books, large purses, books, book bags, notes, etc. Books and book bags will not be allowed at your desk in the exam room. If you bring any of these things, you will be asked to leave them in the front of the room.
6. Students must keep all answer sheets flat on the writing surface.
7. Students must avoid all behaviors that may be regarded as transferring information; this includes "thinking aloud," moving of the lips and gazing at another's paper.
8. Students should satisfy their physiological needs before the examination period begins
9. Students should indicate a question or need during the examination by raising a hand.
10. Students will not be allowed to transfer calculators, pens, pencils, etc. during the exam period.
11. Students are expected to follow the direction of the proctors during the exam. For example, do not begin the exam until directed to do so, stop when time is called.
12. Those sections designated graphing calculator may use graphing calculators. All sections of Math 205 are graphing calculator sections. You must remove cover from your calculator.
13. Use **any** electronic devices, except calculators TI-83/83 Plus/84 or equivalent, is strictly prohibited during the final and results in immediate dismissal from the exam with the final exam score 0. Please leave them at home.