# MDC VC ONLINE COURSE SYLLABUS
### STA2023 Statistical Methods

### A syllabus is:
- A contract between students and instructors
- Written communication on what the course is about, its purpose and content, and requirements for success
- Written documentation of course policies

## Course Information

<table>
<thead>
<tr>
<th>Course ID:</th>
<th>STA 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Number:</td>
<td>xxxxxxx</td>
</tr>
<tr>
<td>Credits:</td>
<td>3</td>
</tr>
<tr>
<td>Term:</td>
<td>Xxx xxxx-xx: xx/xx/xxxx – xx/xx/xxxx</td>
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</tbody>
</table>

## Instructor Information

<table>
<thead>
<tr>
<th>Name:</th>
<th>Wei Zhao</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
<td>ANGEL's internal email required</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:wzhao@mdc.edu">wzhao@mdc.edu</a> (subject: STA2023 ref#xxxxxx) only if you are experiencing technical difficulties and cannot access the course</td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://faculty.mdc.edu/wzhao/">http://faculty.mdc.edu/wzhao/</a></td>
</tr>
<tr>
<td>Phone:</td>
<td>305-259-8245 only when you don’t have e-mail access</td>
</tr>
<tr>
<td>Virtual Office Hours:</td>
<td>Tue 8:00 – 9:00PM, please make an appointment by e-mail in advance with the questions you want to ask</td>
</tr>
<tr>
<td>Campus Office Hours:</td>
<td>NA</td>
</tr>
<tr>
<td>Response Policy:</td>
<td>I check into ANGEL daily on weekdays, so I will get back to you within 24 - 48 hours within business days.</td>
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## Course Description
To provide the student with a foundation of knowledge in this important area of applied mathematics.

**Prerequisites**

MAC 1105 "College Algebra" or suitable placement score

**Miami Dade College Learning Outcomes**

This course addresses the following MDC learning outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills.
- Use quantitative analytical skills to evaluate and process numerical data.
- Solve problems using critical and creative thinking and scientific reasoning.
- Formulate strategies to locate, evaluate, and apply information.
- Use computer and emerging technologies effectively.

**Course Competencies**

**Competency 1:** The student will be able to demonstrate, basic knowledge of statistical terms.

**Competency 2:** The student will be able to describe, explore and compare data by:

a. Constructing and interpreting frequency tables and graphs such as bar graphs, pie charts and stem and leaf plot.

b. Computing and interpreting the measures of centrality: the mean, median, mode and midrange.

c. Computing and interpreting the measures of dispersion: the range, variance and standard deviation.

**Competency 3:** The student will be able to apply the measures
position by:

a. Computing z-scores.
b. Applying the Empirical Rule to the Normal Distribution.
c. Applying the Chebyshev’s Rule to the Non-Normal (or unknown) Distributions.

Competency 4: The student will be able to apply the counting principles by:

b. Computing the possible outcomes of compound events.
c. Computing Combinations and Permutations.

Competency 5: The student will have a working knowledge of basic probability theory, including being able to:

a. Describe a sample space and an event.
b. Calculate probabilities of simple, compound and conditional events.

Competency 6: With respect to random variables, the student will be able to:

a. Distinguish between discrete and continuous random variables.
b. Construct a probability distribution for a discrete random variable and be able to compute its mean and standard deviation.
c. Compute probabilities for random variables having a binomial distribution.
d. Compute probabilities for random variables having a normal distribution.
e. Apply the Central Limit Theorem.
f. Approximate the Binomial Probability using the Normal Distribution.

Competency 7: The student will be able to construct confidence intervals, relative to:

a. A single mean with population standard deviation known and unknown.
b. A single proportion.
c. The difference between two means.

Competency 8: The student will be able to apply hypothesis testing...
procedures by:

a. Identifying Type I and Type II errors.
b. Identifying and interpreting p-values.
c. Testing a single mean for large or small samples.
d. Testing the difference between two means.
e. Testing a single proportion.

**Required Textbook and Materials**

You are required to purchase access to MyMathLab. When you purchase access to MyMathLab, you will be able to access the textbook (Elementary Statistics, 11th edition, Mario Triola, Pearson/Addison Wesley) online. Purchasing the textbook for this course is optional. If you want to purchase the textbook, you will need to purchase a new copy which will give your access to MyMathLab.

When you log into MyMathLab, you will find the complete textbook online, along with videotapes and homework tutorial assignments. When you have your access code, go to [www.coursecompass.com](http://www.coursecompass.com) and click register. Follow the instructions to register into MyMathLab. When completing the registration, they will ask you for the COURSE ID. The Course ID is xxxxxxxxx.

**Optional Materials**


**Note:** Purchasing the textbook for this course is optional. If you want to purchase the textbook, you will need to purchase a new copy which will give your access to MyMathLab.

**Technology Requirements**

Please refer to the [ANGEL Requirements and Plug in Information](http://example.com) at the Virtual College website. Internet Explorer is the recommended browser and headsets/microphone are needed for participation in web conferencing activities through Elluminate; webcam is optional. In
addition, Microsoft Office applications such as Word, Excel, and PowerPoint are standard for Virtual College courses.

Due to the necessity of technology in Virtual College Courses, you must have a backup plan for using an alternative computer with internet access in case of problems with your personal computer. If you live in the South Florida area, you may use the computer courtyards located on MDC campuses. If you have a technology problem that affects your ability to access your online course, please notify your instructor immediately. If you can access other internet sites but cannot access your online course, you need to contact the Virtual College Help Desk at 305-237-3800 to seek assistance.

If you have no internet access at all, it is not a Virtual College / online course issue. Please be aware that the Virtual College's Help Desk does not cover problems that you may be experiencing with your computer hardware, installation of software, internet connection, or other technical problems that may require a technician or intervention from your Internet Service Provider.

Course Content

The course is organized as follows:

Module 1: Introduction to Statistics
Module 2: Summarizing and Graphing Data
Module 3: Statistics for Describing, Exploring, and Comparing Data
Module 4: Probability
Module 5: Probability Distributions
Module 6: Normal Probability Distributions
Module 7: Estimates and Sample Sizes
Module 8: Hypothesis Testing

Course Work Requirements

To successfully complete this course, you need to spend at least an average of 12 hours per week on the course, which includes readings,
postings, quizzes, exams, etc. Set up a weekly time schedule that allows you sufficient time to complete the assigned course work by the required due dates. Plan to check-in and complete assignments at least three times a week. Do not procrastinate! Turn your work in early or by the due date.

**Participation:** Discussions Forums are set up for each module. You are expected to participate in at least six of these. Your five highest grades will be counted.

**Assignments:** Read the online textbook in MyMathLab, watch the online videos in MyMathLab, read all modules contained in ANGEL, and complete the homework assignments in MyMathLab. All assignment sets needs to be completed before taking the corresponding test.

**Tests:**
- Practice exams will be available for each unit prior to the graded test. You can take the practice exams as many times as you wish (option). The practice exam does not count toward your overall class grade. The practice exams are available in MyMathLab, and the actual exams are available in ANGEL.
- A review of each test and a review of final will be available in Angel with similar pattern as actual tests and final which will help you get a sense of what to expect on each test (option but highly recommended).
- **Important due dates:** Discussion, assignments are due at the same dates as corresponding due dates for tests as stated in course calendar.

**Exam (proctored):** The Final is a proctored exam taken at the MDC testing centers within ANGEL

- the final will cover (ch1 – 8) in the course
- the final is multiple choice and applications
- You will have access to formulas and tables in ANGEL during final exam.
- Please bring your calculator and a scrap paper
- You are allow to bring an 8.5 x 11” note front and back with information you think is helpful
for your final

For Miami Dade testing center information, please go to: http://vcollege.mdc.edu/portal/testing.aspx

Late and Make-up Policy: No Make-ups are allowed.

Grading
Instructor Note: Edit to reflect your course grading structure/scale.

<table>
<thead>
<tr>
<th>Grading Criteria</th>
<th>Percentage</th>
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<tbody>
<tr>
<td><strong>Course Requirements</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td>Participation (highest five of six</td>
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<tr>
<td>Discussion Grades will be counted)</td>
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<tr>
<td>Assignments</td>
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<tr>
<td>Tests</td>
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<td>Proctored Final Exam</td>
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<tr>
<td><strong>Total Percentage</strong></td>
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Miami Dade College’s Letter Grades

<table>
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<th>Range</th>
<th>Letter Grade</th>
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<tr>
<td>80 - 89</td>
<td>B</td>
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<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
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Miami Dade College Policies

Virtual College students have the same rights and responsibilities as all students at Miami Dade College, and shall abide by all applicable
policies and procedures.

- **Students’ Rights and Responsibility Handbook**

This handbook provides you with the basic information you need to know as a student at Miami Dade College. Please review the [Student’s Rights and Responsibilities Handbook](#) to learn about policies addressing code of conduct, grade appeals, religious observations, services for students with special needs, and many other areas. Due to the nature of the online environment, the information below supplements the Handbook for Virtual College students.

- **Academic Dishonesty**

Please carefully review the Academic Dishonesty policies in the [Student’s Rights and Responsibilities Handbook](#).

The Handbook identifies "cheating on an examination" as one of the actions included under academic dishonesty. In this course, you are expected to complete quizzes and exams independently and without access to the course’s online content or your own study notes. Having multiple browser windows open, accessing previous quizzes or course readings, and using your course notes while taking a quiz or exam constitute cheating. All your course activity is recorded by the ANGEL system; activity logs during the times when you are taking quizzes / exams that demonstrate access to other course components constitute evidence of cheating, and may result in a failing grade for the corresponding quiz or exam.

Plagiarism is another action identified as academic dishonesty in the Handbook. Presenting the work or ideas of someone else as one's own constitutes plagiarism, which is why students are always expected to cite their sources. Through the use of Turnitin, unoriginal work can be easily identified; if not sourced, this constitutes evidence of plagiarism, and may result in a failing grade for the corresponding assignment.

- **Course Withdrawal**

After registering, students may change their schedules during the drop / add period. The dates for this period are listed on the [Academic Calendar](#) that may be found as a link on the Miami Dade College
homepage.

If you decide to drop this course and you desire a full refund, you must do so before the last day to withdraw with a full refund (see College Academic Calendar for date). If you stop logging on to class without officially withdrawing through the Registrar's Office, the instructor may withdraw you for nonattendance. If you continue to log on but do not participate in the class and complete assignments, the instructor may withdraw you for inactivity.

All your log on and course activity are recorded by the ANGEL system. The instructor notifies absent / inactive students of his / her intent to withdraw them via e-mail and / or phone; if the student does not respond in the amount of time allotted, the instructor may withdraw the student. Once a student is withdrawn, course access will be denied.

- **Incomplete Grades**

An Incomplete is given only where extenuating circumstances exist, such as documented medical problems or a death in the family, and is issued solely at the discretion of the instructor. If the instructor agrees to grant an Incomplete, a written agreement must be completed between the instructor and the student, specifying the coursework to be completed, in what manner, and by when. Failure to fulfill the terms of the contract by the end of the next major term will result in an "F" for the course. A student may not remove an Incomplete by registering in a subsequent term to re-take the course.

For more information on Incomplete grades, please refer to the [Student's Rights and Responsibilities Handbook](http://www.mdc.edu).

- **Hurricanes and Other Natural Disasters**

In the event of a hurricane or other disaster, the Virtual College follows the schedule established by the College for campus-based courses. Please visit the MDC website ([http://www.mdc.edu](http://www.mdc.edu)) or call the MDC hotline (305.237.7500) for situation updates. Assignments and due dates will be adjusted based upon the impact of the storm on our community. However, if the College reopens and you are still without power or internet access, it is up to you to have a backup plan (MDC computer courtyards, labs and libraries; Miami-Dade County public libraries; or similar facilities). Please keep in touch with your instructor if at all possible.