



# Advanced Technology Academy Class Syllabus MA 207 Principles of Statistical Methods & Ford PAS Module 8 Ensuring Quality

**Instructor:** Mrs. LaGreca  
**Room:** 101  
**Office Hrs:** Mon - Fri 1:30pm – 2:22pm; Tues 3:30pm – 4:00pm or by appointment  
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**Resources:** Course 3 Module 8 Ensuring Quality, Ford Partnership for Advanced Studies.  
Additional resource materials will be provided by instructor.

### Course

**Description:** Two semester course that surveys elementary statistical concepts: descriptive statistics; probability distributions, including normal & binomial; inferential techniques, including interval estimation and hypotheses testing; and simple linear regression.

This course incorporates the course and credit requirements for Lake Superior State University; the Michigan Department of Education's Michigan Merit Curriculum for Statistics & Probability; and the Ford PAS program.

### Michigan Merit

**Exam Prep:** Throughout the year students will be given diagnostic assessments to prepare for the ACT and Work Keys mathematics portions of the Michigan Merit Exam.

Students that are identified as needing additional support will be expected to complete supplemental materials outside of the required coursework.

### Class

**Structure:** The course will be a combination of lectures, in-class activities, internet research, and computer applications with Fathom software. Students will be permitted calculator use in this course. A TI-83 Plus is the recommended calculator for this course. ATA has a limited number of these calculators for students to use during class and after school.

### Grading Scale:

|     |          |     |         |     |            |
|-----|----------|-----|---------|-----|------------|
| A   | 100 - 93 | C+  | 79 - 77 | D - | 62 - 60    |
| A - | 92 - 90  | C   | 76 - 73 | F   | 59 & Below |
| B+  | 89 - 87  | C - | 72 - 70 |     |            |
| B   | 86 - 83  | D + | 69 - 67 |     |            |
| B - | 82 - 80  | D   | 66 - 63 |     |            |

## Course

**Objectives:** The goal of this course is to produce informed consumers of statistical reports; statistical decision making; and correlation and regression

To achieve these goals the student will be expected to produce, interpret, and understand statistical charts and graphs; frequency distributions; population distributions; probability distributions; statistical decision making; and correlation.

The student will be expected to demonstrate knowledge, understanding, and computational ability with: histograms and frequency distributions; simple probability; discrete probability distributions including binomial, continuous, normal, chi-square, and Student T; use of statistical tables; producing confidence intervals on populations means, proportions, and differences in means/proportions; testing hypotheses on populations means, proportions, and differences in means/proportions; understanding simple linear regression, correlation, and line of best fit; and use of categorical tests of independence and goodness-of-fit.

## Tentative Course Schedule:

| Time Frame    | Unit  |
|---------------|---|
| 9/11 – 10/17  | ~ Probability & Counting  |
| 10/23 – 12/20 | ~ Introduction to Statistics & Data Analysis<br>~ Ford PAS Activities 1 & 2 |
| 1/16 – 2/13   | ~ Binomial & Normal Distributions<br>~ Ford PAS Activity 3                  |
| 2/19 – 3/8    | ~ Correlation & Regression<br>~ Ford PAS Activity 4                         |
| 3/19 – 4/6    | ~ Estimates & Sample Sizes<br>~ Ford PAS Activity 5                         |
| 4/16 – 5/4    | ~ Inferences from Two Samples<br>~ Ford PAS Activity 6                      |
| 5/7 – 5/18    | ~ Hypothesis Testing  |
| 5/21 – 6/4    | ~ Chi-Square & Analysis of Variance   |
| 6/7 – 6/11    | ~ REVIEW FOR FINAL EXAM   |
| 6/12 – 6/14   | ~ Final Exams   |