

## **COURSE SYLLABUS: Advanced Math II**

### **Logistics**

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Location: Room 233

### **Course Overview**

Prerequisite - Algebra I, Algebra II, Geometry, & Adv. Math I [3 College Credits]

This course will meet the NCLB and MN math requirements for probability, statistics, and data handling. Many counting techniques are studied such as the basic multiplication counting principle, permutations and combinations. The standard normal curve (Bell Curve) is studied in depth along with standard values (z-scores), and a thorough understanding of variance and standard deviation as well as the standard measures of central tendency (mean, median, and mode). Besides normal distributions, we will also study many other distributions and see how they help us make decisions about data in the world around us. Data-driven decisions are becoming very common in the world around us, and a higher understanding of what is involved can be very beneficial to your future.

(CIHS name is Math 1150 Elementary Statistics)

### **Units of Instruction**

1. Descriptive Statistics: Mean, median, mode, variance, standard deviation, frequency distributions, stem and leaf plots, box and whisker plots
2. Introduction to Probability: Basic probability formulas, permutations, combinations, counting formulas, binomial probabilities
3. Populations, Samples and Distributions: Random samples, normal distributions, binomial distributions
4. Estimation: Sampling distributions, confidence intervals and t-distributions
5. Tests of Hypotheses: One sample normal and binomial, two sample normal and binomial
6. Regression and Correlation
7. Chi-square Distribution: Contingency tables and goodness of fit
8. Analysis of Variance (ANOVA)

## Methodology

Advanced Math II students will be instructed in a variety of methods, including, but not limited to:

- Class discussion
- Group work
- Individual practice
- Use of the Internet as an informational source
- Individual/Group presentations

Every effort will be made to provide application opportunity for the material covered in this course.

## Evaluation Criteria

Students will have a variety of methods to display master of the subject area and to show their effort and overall contributions to the class. The following are the criteria used to evaluate students

- 40% - Homework/Class Participation
  - Cooperation in class with staff and peers
  - Turning in Practice Assignments on time
  - Active role in all class activities
  - Being prepared for class
  - Adherence to all class policies as explained in the student contract
- 60 % - Test/Quiz scores
  - Individual assessments

## Materials

- Pen or pencil
- Textbook
- Folder
- Notebook
- Notebook
  - These materials are expected each day, and allow students to participate in guided practice, note-taking, warmup problems, and to store information that is distributed to the class. (A student who does not have materials with them is not prepared for class, and this will be reflected in their participation grade.)

**Resources**

- Various websites
- Various handouts
- Notes

**CONTRACT: Advanced Math II**

**Please review the course syllabus with your parent or guardian. Review the following notes below, and then sign the document. The contract is due one day after it is assigned.**

- Students will show respect for classmates, teacher, equipment, and the rules.
- Students will be respectful of class materials, such as protractors, compasses, and calculators.
- Students are expected to contribute to the atmosphere of the class in a positive manner.
- Cheating will result in a zero for all students involved.
- Students are expected to turn work in a timely manner. Late work will be accepted at a penalty of 50% for one week. After one week, no credit will be earned.
- All work/scores will be viewable on StudentView/ParentView. If you have trouble locating a missed assignment, you are responsible to print your own copy from your StudentView account.

*We have read the Advanced Math II Student Contract and Syllabus, and understand all the rules of this class.*

STUDENT'S NAME (PRINTED): \_\_\_\_\_

STUDENT'S SIGNATURE: \_\_\_\_\_

PARENT'S NAME (PRINTED): \_\_\_\_\_

PARENT'S SIGNATURE: \_\_\_\_\_

PARENT CONTACT INFORMATION (OPTIONAL): \_\_\_\_\_

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