

# TPHS Course Profile



## Discrete Math

### 12<sup>th</sup> Grade (10 Credits)

- Meets high school graduation requirement for math credits
- Meets the UC/CSU subject area "X" requirement

### General Information

#### Description

In Discrete Math students will learn concepts such as

- Formal Logic including path and circuit theory
- Probability
- Social theories such as elections theories, apportionment theories, fair division theories and game theories
- Number sense/Mathematical reasoning including proofs and encryption
- Matrices/Linear Algebra as it applies to business and economics situations
- History of Math
- Finance models

#### Expectations and Goals

Students should have:

- A "C" or better in Integrated Math 3

Students entering Discrete Math should already have a good understanding of the following concepts:

- Basic math skills, especially solving for variables in equations.
- Solve basic probability questions.
- Students should also have strong reading skills and to be able to understand and interpret a variety of word problems and explanations of concepts.

Students entering Discrete Math should also be able to solve problems such as

<u>Equation Problem:</u> Solve the system of equations: $x + 2y = 23$ $x + 3y = 4$	<u>Word Problem:</u> Given that Statement A is true, must Statement B be true also? Statement A: "If it is raining, I will get wet". Statement B: "I am wet, so it must be raining"
<u>Number Sense Problem:</u> If you have three kinds of bread, two kinds of meat, and four types of cheese, list the types of sandwiches can you make?	

Students entering Discrete Math are expected to do the following things:

- Have a strong desire to learn concepts that make you think in different ways than you are used to in math classes.
- Do some reading assignments outside of class
- Ask “How does this apply to life?” and help find answers.
- Seek help when needed.

### Estimated Homework

Students will be expected to spend an average of approximately 1 hour outside of class on homework for each class period. This is a general guideline for planning and scheduling purposes. A student’s individual ability level and competency may affect the actual preparation times needed.

There may also be projects such as

- History of Math project (oral presentation)
- Probability Project

### This Class Is Best For...

This class is designed to show you how math works in everyday life. The emphasis is on the application of concepts.

### Course Materials

#### Required Materials

Text book: *For All Practical Purposes*, 7th edition, W.H. Freeman 2006, COMAP.