

# GUIDED SELF-PLACEMENT: MATH

## STEP 1

Choose your math **PATHWAY** option below based on your college major.

### PATHWAY OPTION 1

## Math 123 Math in Modern Society

For these majors: Liberal Arts, Trade and Industry, and any major that requires "Any Mathematics Gen Ed."

### PATHWAY OPTION 2

## Math 153 Statistical Reasoning

For these majors: RN, Health Sciences, some Business, and any major that requires "MATH 143 or MATH 153"

### PATHWAY OPTION 3

## Math 143: College Algebra

For these majors: STEM, Elementary Ed, RN, Health Sciences, some Business, and any major that requires MATH 143, 147, 160, 170, and/or 157  
(STEM majors start in Math 147, contact advising)

## STEP 2

Choose the **PACE** to complete your gateway math course within your pathway.

### GRADUAL PACE

Building Your Math Foundation Before Gateway Course:  
2 semester completion taking 4 credits first semester and 3 credits second semester

### MODERATE PACE

Reviewing Math Foundation Integrated Into Courses:  
1 semester completion taking 5 credits

### STANDARD PACE

Ready to Begin the Gateway Course: 1 Semester completion taking 3 credits

Semester 1:  
Math 023  
Semester 2:  
Math 123

No Score Needed

Semester 1:  
Math 122  
with Math 123A

H.S. GPA  $\geq$  2.0 or  
ACT  $\geq$  15 or SAT  $\geq$  370

Semester 1:  
Math 123

H.S. GPA  $\geq$  2.3 or  
ACT  $\geq$  18 or SAT  $\geq$  430

Semester 1:  
Math 043/  
Math 043R\*  
Semester 2:  
Math 153

No Score Needed

Semester 1:  
Math 152  
with Math 153A

H.S. GPA  $\geq$  2.7 or  
ACT  $\geq$  20 or SAT  $\geq$  480

Semester 1:  
Math 153

H.S. GPA  $\geq$  3.0 or  
ACT  $\geq$  23 or SAT  $\geq$  540

Semester 1:  
Math 043/  
Math 043R\*  
Semester 2:  
Math 143

No Score Needed

Semester 1:  
Math 142  
with Math 143A

H.S. GPA  $\geq$  2.7 or  
ACT  $\geq$  20 or SAT  $\geq$  480

Semester 1:  
Math 143

H.S. GPA  $\geq$  3.0 or  
ACT  $\geq$  23 or SAT  $\geq$  540

\*Math 043 is a 4 credit course that meets for 4 hours.

Math 043R is a 4 credit course that meets for 5 hours, giving an extra hour of practice and help on math concepts.

Sample problems for each gateway math course are shown below. The expectation is that you know how to do these problems when entering the standard gateway course. Do you recognize these problems? Can you complete them correctly? This, along with your High School GPA or SAT or ACT score, can help you determine how much review you need and the pacing needed to complete your gateway course.

### Math 123 Gateway Course Math in Modern Society

This survey course provides an opportunity to acquire an appreciation of the nature of mathematics and its relation to other aspects of our culture. The course is rigorous but not rigid and applies mathematics to real-world problems.

- Change the following into a percentage.  
 $\frac{3}{14}$
- Change the percentage to a fraction in lowest terms 74%
- Change the percentage to a decimal 52%
- Evaluate  $2x^2 + 3x - 6$  when  $x = -4$
- Solve for  $x$ :  
 $2(x - 7) = 5(x + 3) - x$
- Simplify:  
 $4 - (3 + 7) + 15 \div 5 - 2$
- Solve for  $n$   $\frac{7.8}{13} = \frac{n}{2.6}$

Answers:

- 21.43%
- $\frac{37}{50}$
- 0.52
- 14
- $x = \frac{-29}{2}$
- 5
- $n = 1.56$

### Math 143 Gateway Course College Algebra

This course includes fundamental concepts of Algebra; equations and inequalities; functions and graphs; polynomial, rational, exponential and logarithmic functions; systems of equations and inequalities; the Binomial Theorem.

- Solve for  $x$ :  
 $2(x + 5) = 5(x - 2) - x$
- Solve by factoring:  
 $x^2 + 3x - 10 = 0$
- Solve using the quadratic formula:  
 $x^2 - 6x + 10 = 0$
- Simplify:  
 $\frac{x + 2}{x^2 + 2x}$
- Find the  $x$ - and  $y$ -intercepts:  
 $4x - 8y = 16$
- Solve for  $x$ :  
 $13 \leq 2x + 7 < 27$
- Rewrite  $\sqrt[3]{x^2}$  with a rational exponent.
- Rewrite with positive exponents:  
 $\frac{x^{-3}y^2}{x^7y^{-2}}$
- Need to be able to graph functions and solve using the graphing calculator.

Answers:

- $x = 10$
- $x = -5, x = 2$
- $x = 3 \pm i$
- $\frac{1}{x}$ , if  $x \neq -2$
- $x$ -int: (4,0)  
 $y$ -int: (0,-2)
- [3,10)
- $x^{2/3}$
- $\frac{y^4}{x^{10}}$

### Math 153 Gateway Course Statistical Reasoning

This algebra-based probability and statistics course covers descriptive statistics, binomial and normal distribution, confidence intervals, and hypothesis testing using  $z$ -,  $t$ -, chi square-, and  $f$ -distributions. Correlation and regression are also introduced.

- Round 1.218156 to the nearest hundredth.
- 1.2% of 13=
- 23 is what percent of 50?
- 14 is what percent of 61?
- 22 out of 30 students passed the test. Find the proportion of students who failed the test.
- Change the following from scientific notation to standard notation:  
1.3542E-4 =  
5.627E4 =
- Find the equation of the line passing through the two points (-1, 3) and (2, 6)
- What is the slope of the line:  $2x - 3y = 5$

Answers:

- 1.22
- 0.156
- 46%
- 22.95%
- $8/30 = 26.67\%$
- 0.00013542  
56,270
- $y = x + 4$
- slope is  $2/3$

Have a conversation with your advisor, and consider these questions when choosing your course pace.

- How many credits are you taking this semester?
- How many hours per week do you work?
- What other personal time commitments do you have?
- How confident do you feel in math?
- Have you attempted a college math course in the past?
- Have you recently completed high school Algebra II with an A or B?
- Each 1 credit in college requires 2 hours of study time outside of class per week. A 3 credit math course would typically require 6 hours outside of class time per week. Do you have the time to complete a math course this semester?