

# Directed Self-Placement For Mathematics

To Incoming Students of Union College,

I would like to welcome you to Union College of Union County, NJ and the educational journey that you are about to begin. Please know that all the Faculty and Staff at Union College are committed to supporting your studies as you work towards your degree.

The first step of any journey is the most important one and thus we want to get all of you "off on the right foot." The courses you select for your first semester will be both challenging and rewarding and are the foundation for the rest of your studies.

To help you select the math course that is the best for your degree program, we have developed a Directed Self-Placement (DSP) process. DSP will help you determine which initial Union College math course is best for you based upon your math experience and future goals.

The DSP process consists of three simple steps:

1. Review Math Course Expectations and Course Descriptions;
2. Complete the Math Directed Self-Placement Questionnaire;
3. Select your preferred Math course(s).

The questionnaire will ask you about your previous math classes and your goals. All three of the above steps should take about 15 minutes to complete.

I would also like to take this opportunity to tell you that the College offers free tutoring services in the Academic Learning Centers that are located on all campuses.

Should you have any questions, please feel free to reach out to the STEM Division at (908) 709-7467 or [STEMDivision@ucc.edu](mailto:STEMDivision@ucc.edu).

Again, welcome to Union College and sincere wishes for your academic success!

Dean William Dunscombe  
STEM Division  
Union College  
of Union County, NJ



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# Union College Academic Affairs College Placement for Mathematics

Multiple Measures Exemption	Score	Explanation
High School GPA	3.0 or higher	Student took three years of mathematics
SAT Mathematics score	530 or higher on previous SAT; 500 or higher on current SAT (March 2016 or later)	
ACT Score	20 or higher	
A.A./A.S. or B.A/B.S. degree		
Transfer credit for one semester of college-level mathematics		
Satisfactory completion of developmental courses in mathematics at another institution		Advisor will review transcript for equivalency
Visiting student		
Qualifying Accuplacer scores		Previous or current (NextGen) test scores accepted
Other Test Score Exemptions	Score	Explanation
Advanced Placement scores	4 or 5 on AB Calculus placement into MAT 171 4 or 5 on BC placement into MAT 172	
PARCC Mathematics 11	4 or higher (raw score of 750)	
IB test scores	4 or higher on Mathematics SL for MAT 119; 4 or higher on Math (further) for MAT 125; 5 or higher on Mathematics HL for MAT 155; 6 or 7 on Mathematics HL for placement into MAT 171	
Other Exemptions	Score	
Direct Self Placement Survey Non-STEM / Non-Business	Student agrees/strongly agrees with #1-4 (developmental math recommended) Student agrees/strongly agrees with #1-5 and 7+8 and took and passed three years of math in high school (MAT 125 or 127 recommended) Student agrees/strongly agrees with #1-6 and took and passed three (3) years of math in high school (MAT 119 recommended)	
STEM / Business	Student agrees/strongly agree with #1-10 and took and passed 4 years of mathematics in high school (MAT 143 recommended) Student agrees/strongly agrees with #1-11 and has passed 4 years of math and has taken pre-calculus and passed with a B or better (MAT 155 recommended) Student strongly agrees with #1 – 12 and has taken calculus in high school and received a grade of C or better (MAT 171 recommended)	



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## **Mathematics Course Expectations:** **Which is the best fit for you?**

The sequence of these courses is appropriate for liberal arts majors  
(NON-STEM AND NON-BUSINESS)

### **MAT 017\***

- You have not taken a math class in more than 5+ years and need a math refresher
- You would like help with skill development in basic math operations

### **MAT 125**

- You have taken 2 or 3 years of math in high school
- You are able to apply math and like to apply it to every day concepts
- You are familiar with probability, geometry, and logic

### **MAT 127**

- You have taken 2 or 3 years of math in high school
- You like analyzing data and looking at graphs
- You are familiar with standard deviation, mean, median, and mode



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\* Courses beginning with a 0 are part of the developmental course sequence and do not count towards degree requirements.

## Mathematics Course Expectations: Which is the best fit for you?

The sequence of these courses is appropriate for  
STEM and Business (AA) majors

### MAT 019\*

- You have not taken a math class in more than 5+ years and need a math refresher
- You would like help with skill development in basic math operations

### MAT 119

- You took 3 years of math in high school
- You like math
- You can solve equations with two variables and are familiar with quadratic equations

### MAT 143

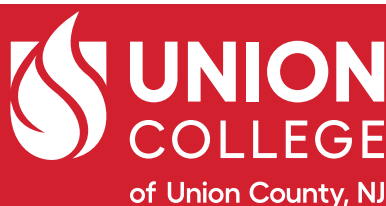
- You took 4 years of math in high school
- You agree with everything for MAT 119, and...
- You can draw a parabola
- You can solve equations with exponents and square roots
- You can work with relations, domains, functions, and ranges

### MAT 155

- You have taken and passed pre-calculus with a B or better
- You agree with everything for MAT 143, and...
- You do not need to use a graphing calculator
- Add – You have a strong algebraic background
- You like the challenge of a fast paced course
- You are familiar with logarithmic functions and various graphing techniques

### MAT 171

- You agree with everything for MAT 155, and...
- You took calculus in high school and earned a "C" or better
- You are familiar with derivatives and can apply them to solve real-world problems
- You are familiar with limits, asymptotes, extrema, and points of inflection



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## Mathematics Course Descriptions:

### What will you learn in a specific course?

MAT 017*	MAT 019*	MAT 125	MAT 127	MAT 119	MAT 143	MAT 155	MAT 171
Introduction to Elementary Algebra	Introduction to Elementary Algebra for Advanced Math Students	Survey of Special Topics for Mathematics	Elementary Statistics	Algebra	Elementary Mathematical Analysis I	Elementary Mathematical Analysis	Unified Calculus I
5 credits	5 credits	4 credits	4 credits	4 credits	4 credits	5 credits	4 credits
This course is designed for non-STEM majors and covers introductory algebra and mathematical concepts to prepare students for MAT 125 or MAT 127.	This course is designed for STEM majors and covers introductory algebra and mathematical concepts to prepare students for MAT 119 and beyond.	This course is designed to give students an appreciation of the beauty and utility of mathematics, and to provide a better idea of what mathematics is and where it can be applied.  ALC hours are required for this course.	This course is an elementary course in descriptive statistics and statistical inference.  ALC hours are required for this course.	This course is for students who have mastered basic algebra, to teach the students more complex algebra topics, and to prepare the students to take next level mathematics courses.  ALC hours are required for this course.	This course introduces the concepts and techniques needed to proceed to more advanced mathematics and science courses, such as calculus.	This course is an accelerated one semester Pre-Calculus course designed for students with sufficient mathematics background but in need of a review of material prior to taking Calculus.	This course is a college level study in Calculus.

STEP 2: Take the Directed Self-Placement Questionnaire  
&

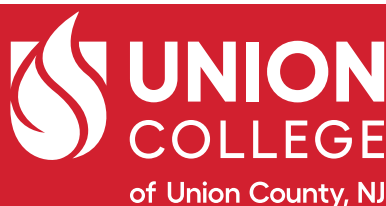
STEP 3: Select your preferred course placement.

Math Directed Self-Placement Questionnaire

By clicking the link below, you will be redirected to the Self-Placement Survey for Math.  
This Survey must be completed by the student.



*The Directed Self-Placement may only be taken once per subject (math and English).*



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## Directed Self Placement for Mathematics:

### Basic Algebra, College Algebra, Liberal Arts Math, and Statistics

	Strongly Agree	Agree	Dis-agree	Strongly Disagree
1) I enjoy mathematics.				
2) I can easily add, subtract, and multiply in my head.				
3) When I am shopping, I can easily figure out a 10% or 20% discount on items that are on sale.				
4) I know how to solve a linear equation.				
5) I know how to graph linear equations.				
6) I know how to solve equations using two variables.				
7) I can solve for mean, median, and mode				
8) I like games of chance and understand probabilities.				

If student only agrees/strongly agrees with #1-4 (developmental math recommended)

If student agrees/strongly agrees with #1 – 6 and took and passed three (3) years of mathematics in high school. (MAT119 recommended)

If student agree/strongly agrees with #1 – 5, 7-8 and took and passed three years of mathematics in high school (MAT 125 or MAT 127 recommended)

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**[www.ucc.edu/dspmath](http://www.ucc.edu/dspmath)**

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## Directed Self Placement for Mathematics: Pre-Calculus and Calculus

	Strongly Agree	Agree	Disagree	Strongly Disagree
1) I enjoy mathematics.				
2) I can easily add, subtract, and multiply in my head.				
3) When I am shopping, I can easily figure out a 10% or 20% discount on items that are on sale.				
4) I know how to solve a linear equation.				
5) I know how to graph linear equations.				
6) I know how to solve equations using two variables.				
7) I can draw a parabola.				
8) I can solve equations with exponents and square roots.				
9) I know how to work with functions, relations, domains, and ranges.				
10) I don't need to use a graphing calculator.				
11) I feel I have a strong algebraic background				
12) I took calculus in high school				

If student agrees/strongly agrees with #1-10 and took and passed four (4) years of mathematics in high school (MAT143 – Elementary Mathematical Analysis (Pre-Calculus recommended))

If student agrees/strongly agrees with #1-11 and has passed 4 years of math and has taken pre-calculus and passed with a B or better (MAT 155 – Accelerated Elementary Mathematical Analysis recommended)

If student strongly agrees with #1-12 and has taken calculus in high school and received a grade of C or better (MAT 171 – Unified Calculus recommended)

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