College Algebra and Trigonometry (MNS1001) is a requirement for all Bachelor of Architecture, Bachelor of Landscape Architecture, and Bachelor of Design Studies, and Bachelor of Interior Architecture students. It is a pre-requisite for Master of Architecture and Master of Interior Architecture students.

Physics (MNS1002) is a required class for all Bachelor of Architecture, and Bachelor of Design Studies students. It is a pre-requisite for Master of Architecture students.

Students can waive College Algebra & Trigonometry or Physics by completing assessment exams given in the Learning Resource Center. If you are interested in attempting to waive these courses, please read this information carefully.

If you need to take College Algebra & Trigonometry or Physics, have studied the material in the past, but are unsure what class is best for you, you can consult with an Advisor or the Manager of the Learning Resource Center. If you are a Master\'s student AND you enrolled at the BAC before Spring of 2015, please speak with the Learning Resource Center or your academic advisor. There is a different waiver process for your program.

The Waiver Process

First decide if you really should waive College Algebra & Trigonometry or Physics. Ask yourself if you have truly mastered the material. Waiving a course is a poor decision if it prevents you from succeeding in the future. Math, Physics, and Structural Systems classes build on what has come before. If you lack the necessary skills, your difficulties will increase as you move forward in the curriculum.

If you have decided you do wish to attempt to waive the course, you will then need to take an assessment exam. Please take time and review the topics listed in this brochure for that particular course. Avoid coming in and taking the exam cold. Study and re-familiarize yourself with the material first. You only get one attempt to waive the class. You should bring a calculator; you are allowed to use notes or a book.

Once you are ready – contact the Learning Resource Center at 617-585-0174 to arrange for a sitting. The test is not given at set times, but rather is offered on an ongoing basis.

If a waiver is granted, you will not have to take the required course. Please note: you are not getting credit for the class. You will need to make the credits up by taking a class in a different area.

If you have any questions about this process, please call the Learning Resource Center.
**MNS1001: College Algebra and Trigonometry**

The following is a list of topics covered:
- Percentages and percentage change
- Solving algebraic equations
- Solving Inequalities
- Solving systems of equations
- Graphing and analysis
- Triangles – determining area and perimeter
- Geometric formulas, to calculate area & volume of other shapes
- Basic trigonometry (sine, cosine, tangent)
- Solving 1st and 2nd degree linear Equations (regular & quadratic)
- Graphing 1st & 2nd degree functions (regular & quadratic)
- Logarithms
- Exponential Functions
- Trigonometric Functions
- More advanced Trigonometric Problems (sine, cosine, tangent)
- Word Problems

The skills in this class are the building blocks for Physics and Structural Systems. It would be difficult, if not impossible to get through major sections of the Physics course without solid knowledge of Trigonometry (necessary to break vectors into their components which then carries through into Structures). About half the class is spent on Trigonometric functions and problems.

Even if you have covered many of these topics in the past, if you feel you do not have mastery of the material, consider this course. Students can take the waiver exam once. MNS1001 is a pre-requisite for Physics and all Structural Systems classes.

**MNS1002: Physics**

The following is a list of topics covered in the course:
- Trig Review/Word Problems
- Vectors/Static Equilibrium
- Newton’s Second Law (F=MA)
- Hook’s Law/ Springs
- Friction
- Simple Harmonic Motion—Frequency, Period, Resonance
- Stress and Strain
- Torque
- Pressure
- Wind Effects

As in the previous courses, even if you have taken physics in the past, if you feel you do not have mastery of the material, consider taking this course. MNS1002 is a pre-requisite for Structural Systems 1. There is no waiver exam for Structural Systems 1. While it is possible to review old math and physics concepts during Structures, we do not recommend it. If you are uncertain about your skills, we strongly recommend taking College Algebra & Trigonometry and Physics before embarking on the Structures sequence.