

# MATHEMATICS AND PHYSICS

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**Directors of undergraduate studies:** Richard Kenyon (Mathematics); Miki Havlickova (Mathematics); Math DUS (math.dus@yale.edu); Sarah Demers (sarah.demers@yale.edu) (Physics)

The major in Mathematics and Physics allows students to explore the productive interaction between the two subjects more extensively than either individual major.

## PREREQUISITES

Prerequisites to the major include MATH 120 or its equivalent, an introductory physics lecture sequence numbered PHYS 180, 181 or above, and the associated laboratory sequence PHYS 205L, 206L.

Students who completed multivariable calculus during high school may consult with directors of undergraduate studies (DUSes) about substituting a higher level mathematics course for MATH 120. The course being substituted will not count toward the total of fourteen term courses (beyond the introductory level) required for the major.

## REQUIREMENTS OF THE MAJOR

Beyond the prerequisites, the major requires a minimum of fourteen term courses above the introductory level, including the senior project. At least six of these must be Mathematics courses numbered 222 or above (other than MATH 470), and at least six must be advanced Physics courses chosen in consultation with the adviser for the major.

A course must be listed with a Math number to count toward the mathematics requirements – substitutions from other departments are not allowed.

## SENIOR REQUIREMENT

A senior project in PHYS 471 or 472 on a topic appropriate for the combined major and acceptable to both the Physics and the Mathematics departments is also required. The student must present an oral report on this project to the Mathematics department.

**Credit/D/Fail** Courses taken Credit/D/Fail may not be counted toward the major.

## SUMMARY OF MAJOR REQUIREMENTS

**Prerequisites** MATH 120 or equivalent; PHYS 180, 181, or PHYS 200, 201, or PHYS 260, 261; PHYS 205L, 206L

**Number of courses** 14 term courses beyond prereqs, incl senior req

**Distribution of courses** 6 Math courses numbered 222 or above; 6 advanced Physics courses selected in consultation with major adviser

**Senior requirement** Senior project in PHYS 471 or 472 on topic acceptable to both depts; oral report on project to Math dept