Physical Sciences Major
For students admitted in the class of 2023

**Introductory Modules**
These modules are recommended for all majors.
- YSC1207 General Chemistry
- YSC1213 General Physics
- YSC1216 Calculus

**Methods Modules**
These modules are recommended for all majors. Some of these modules fulfil the math and/or laboratory requirements. Additional advanced lab options are below. For alternative math options, consult the Head of Studies.
- YSC2205 Mathematical Methods in Physical Sciences
- YSC2237 Computational Methods in Physical Sciences
- YSC2246 Experimental Methods in Physical Sciences

**Core Modules**
There are several possible pathways through the major—pick one.

**Chemistry**
- YSC2224
  - Accelerated Organic Chemistry
- YSC2222
  - Organic Chemistry Laboratory
- YSC2225
  - Physical Chemistry
- YSC2248
  - Analytical Chemistry
- YSC3224
  - Statistical Thermodynamics
- YSC3228
  - Inorganic Chemistry with Laboratory

**Physics**
- YSC2203
  - Classical Mechanics
- YSC3210
  - Introduction to Quantum Mechanics
- YSC3211
  - Introduction to Electrodynamics
- YSC3213
  - Experimental Physics Laboratory
- YSC3224
  - Statistical Thermodynamics

**Physical Sciences**
- Either YSC2203
  - Classical Mechanics
- and/or
  - YSC2224
  - Accelerated Organic Chemistry
- YSC2222
  - Organic Chemistry Laboratory
- Either YSC3210
  - Introduction to Quantum Mechanics
- and/or
  - YSC3211
  - Introduction to Electrodynamics
- YSC3224
  - Statistical Thermodynamics

**Upper-Division Electives**
Students aiming to attend graduate programs should plan on taking a few additional upper-division electives aligned with their goals and intended capstone topic. These modules are offered at Yale-NUS on a rotating basis, but students are also recommended to pursue options at NUS should suitable modules not be offered in a given semester.

**Chemistry**
- YSC3214
- Biochemistry
- YSC4218
- Advanced Polymer Chemistry
- YSC4219
- Advanced Organic Chemistry
- YSC4205
- Organometallic Chemistry

**Physics**
- YSC3243
  - Principles of Biophysics
- YSC4207
  - Modern Astrophysics
- YSC4214
  - Solid State Physics
- YSC4214
  - Theory of Quantum Information & Computation
- YSC4221
  - Advanced Quantum Mechanics
- YSC4222
  - Chaos Theory
- YSC4223
  - Physics in Curved Spacetime

**Physical Sciences**
Any combination of classes on the left, or other classes at NUS with approval of the Head of Studies

**Capstone Research**
These modules are required for all majors and are taken in both semesters of students' final year.
- YSC4209 Physical Sciences Research Seminar (2x 2MCs)
- YSC4101 Physical Sciences Capstone Project (2x 5MCs)

For a complete description of the Physical Sciences major requirements see: https://physicalsciences.yale-nus.edu.sg/programme/description/