

Physical Sciences Major

Requirements

- Required Course
- Fulfils math requirement (minimum 5 Units required, but more recommended)
- ▲ Fulfils lab requirement (minimum 5Units required, but more recommended)

Note: In addition to these requirements, students must take an additional 10 Units at the 3000-level or higher for a total of 54Units.

Introductory Courses

These courses are recommended for all majors.

- YSC1207 General Chemistry ■
- YSC1213 General Physics ■
- YSC1216 Calculus ●

Methods Course

These courses are recommended for all majors. Some of these courses 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 Course

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 courses are offered at Yale-NUS on a rotating basis, but students are also recommended to pursue options at NUS should suitable courses 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
- YSC3246 Modern Astrophysics
- YSC4207 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 courses are required for all majors and are taken in both semesters of students' final year.

- YSC4209 Physical Sciences Research Seminar (2x 2Units) ■
- YSC4101 Physical Sciences Capstone Project (2x 5Units) ■