INTEGRATED SCIENCE MAJOR

Students must also complete the Undergraduate Registration Requirement (https://catalogs.northwestern.edu/undergraduate/requirements-policies/undergraduate-registration-requirement/) and the degree requirements of their home school.

### Course Title

#### Major Requirements (25.7 units)

**First Year**

- **COMP_SCI 111-0** Fundamentals of Computer Programming
- **CHEM 171-0** Advanced General Inorganic Chemistry
  & **CHEM 181-0** and Advanced General Inorganic Chemistry Laboratory
  & **CHEM 172-0** Advanced General Physical Chemistry
  & **CHEM 182-0** and Advanced General Physical Chemistry Laboratory
- **MATH 281-1** Accelerated Mathematics for ISP: First Year
  & **MATH 281-2** and Accelerated Mathematics for ISP: First Year
  & **MATH 281-3** and Accelerated Mathematics for ISP: First Year
- **PHYSICS 125-1** General Physics ISP
  & **PHYSICS 125-2** and General Physics for ISP
  & **PHYSICS 125-3** and General Physics for ISP
  & **PHYSICS 126-1** and Physics for ISP Laboratory
  & **PHYSICS 126-2** and Physics for ISP Laboratory
  & **PHYSICS 126-3** and Physics for ISP Laboratory

**Second Year**

- **BIOL_SCI 240-0** Biochemistry, Molecular and Cell Biology - 1 for ISP
  & **BIOL_SCI 241-0** and Biochemistry, Molecular and Cell Biology - 2 for ISP
- **BIOL_SCI 232-0** Molecular and Cellular Processes Laboratory
  or **BIOL_SCI 221-0** Cellular Processes Laboratory
- **BIOL_SCI 233-0** Genetics and Molecular Processes Laboratory
  or **BIOL_SCI 222-0** Genetics and Molecular Processes Laboratory
- **CHEM 121-1** Organic Chemistry
  & **CHEM 232-1** and Organic Chemistry Laboratory I
- **CHEM 348-0** Physical Chemistry for ISP
- **EARTH 350-0** Physics of the Earth
- **MATH 381-0** Fourier Analysis and Boundary Value Problems for ISP
- **MATH 382-0** Complex Analysis for ISP
- **PHYSICS 339-1** Quantum Mechanics
  & **PHYSICS 339-2** and Quantum Mechanics
- **PHYSICS 339-3** Particle and Nuclear Physics

**Third Year**

- **ASTRON 331-0** Astrophysics ISP
- **BIOL_SCI 323-0** Bioinformatics: Sequence and Structure Analysis
  or **BIOL_SCI 341-0** Population Genetics
  or **BIOL_SCI 361-0** Protein Structure and Function
  or **BIOL_SCI 390-0** Advanced Molecular Biology
- **NEUROSCI 311-0** Biophysical Analysis of Neurons for ISP
- **PHYSICS 337-0** Physics of Condensed Matter
  or **PHYSICS 339-3** Particle and Nuclear Physics
- **STAT 383-0** Probability and Statistics for ISP

**Course Title**

With permission, Undergraduate Research (INTG_SCI 398-0) may be substituted for up to 3 of the following courses:

- **ASTRON 331-0** Astrophysics ISP
- **BIOL_SCI 323-0** Bioinformatics: Sequence and Structure Analysis
  or **BIOL_SCI 341-0** Population Genetics
  or **BIOL_SCI 361-0** Protein Structure and Function
- **NEUROSCI 311-0** Biophysical Analysis of Neurons for ISP
- **PHYSICS 337-0** Physics of Condensed Matter
  or **PHYSICS 339-3** Particle and Nuclear Physics
- **MATH 382-0** Complex Analysis for ISP
- **NEUROSCI 311-0** Biophysical Analysis of Neurons for ISP
- **PHYSICS 337-0** Physics of Condensed Matter
  or **PHYSICS 339-3** Particle and Nuclear Physics

**Honors in Integrated Science**

Students eligible to pursue honors based on their overall performance in ISP courses will be so informed no later than fall quarter of senior year. Those who choose to pursue honors must then enroll with a faculty research adviser in at least 2 quarters of Undergraduate Research either in ISP (INTG_SCI 398-0) or an ISP-affiliated department (some of these credits may count toward the major; see the program director for details). At the beginning of May eligible students submit a senior thesis describing their research activities for consideration by the ISP committee.

Students whose theses and grades meet program criteria are recommended to the college for graduation with honors. For more information consult the program director and see Honors in the Major (https://catalogs.northwestern.edu/undergraduate/arts-sciences/#academicoptionstext).