MATH 221 Calculus and Analytic Geometry 1 / Calculus and Analytic Geometry 2 (MATH 222): MATH 221 is a prerequisite to PHYSICS 247, PHYSICS 207, and PHYSICS 201.

MATH 234 Calculus–Functions of Several Variables: typically taken to complete the sequence MATH 221/MATH 222/MATH 234. This course can be taken simultaneously with MATH 319.

MATH 319 Techniques in Ordinary Differential Equations: You are strongly advised to take MATH 319 and MATH 340, or MATH 320 before PHYSICS 311 Mechanics.

MATH 340 Elementary Matrix and Linear Algebra: This course is a bridge between concrete and abstract math. The next step for students interested in more abstract math is MATH 521/MATH 522. MATH 340 is particularly useful for PHYSICS 311 and later for quantum mechanics and we strongly suggest taking it or MATH 320. MATH 320 is a “light” version combining MATH 319 and MATH 340. It is adequate for the rest of our undergraduate physics curriculum, but is not recommended for those planning on continuing to graduate school. There is a special honors section, Math 320!, that thoroughly covers all of the material in MATH 319 and MATH 340. We recommend it as a good way to fit in both topics before you take PHYSICS 311, but it is a more challenging course.

Applied Mathematical Analysis (MATH 321): Techniques for solving problems in the physical sciences, engineering, and applied mathematics, using advanced calculus and analytic function theory. Can be taken before or after MATH 322. It is recommended that MATH 321 be taken before taking PHYSICS 322. MATH 321 is highly recommended for physics majors but requires a significant time commitment.

MATH 322 Applied Mathematical Analysis: Techniques for solving partial differential equations, with an emphasis on practical problems in the physical sciences. Also covers special functions, Fourier Transformations, etc. MATH 321 and MATH 322 are recommended for those planning to continue on to graduate school in Physics.

Chemistry
A college course in chemistry is useful for all physics students, but not required.

Computing
Students should become familiar with scientific programming. The most useful languages are Python followed by C or C++. The computer sciences department offers introductory courses. The Division of Information Technology (DoIT) also offers short courses to introduce programming.

L&S CAREER RESOURCES
Every L&S major opens a world of possibilities. SuccessWorks (https://successworks.wisc.edu/) at the College of Letters & Science helps students turn the academic skills learned in their major, certificates, and other coursework into fulfilling lives after graduation, whether that means jobs, public service, graduate school or other career pursuits.

In addition to providing basic support like resume reviews and interview practice, SuccessWorks offers ways to explore interests and build career opportunities.
skills from their very first semester/term at UW all the way through graduation and beyond.

Students can explore careers in one-on-one advising, try out different career paths, complete internships, prepare for the job search and/or graduate school applications, and connect with supportive alumni and even employers in the fields that inspire them.

- SuccessWorks (https://careers.ls.wisc.edu/)
- Set up a career advising appointment (https://successworks.wisc.edu/make-an-appointment/)
- Enroll in a Career Course (https://successworks.wisc.edu/career-courses/) - a great idea for first- and second-year students:
  - INTER-LS 210 L&S Career Development: Taking Initiative (1 credit)
  - INTER-LS 215 Communicating About Careers (3 credits, fulfills Comm B General Education Requirement)
- Learn about internships and internship funding (https://successworks.wisc.edu/finding-a-job-or-internship/)
- Activate your Handshake account (https://successworks.wisc.edu/handshake/) to apply for jobs and internships from 200,000+ employers recruiting UW-Madison students
- Learn about the impact SuccessWorks has on students’ lives (https://successworks.wisc.edu/about/mission/)