

# ACADEMIC PLANNING GUIDE - PHYSICS

effective with 2017-2018 Catalog

## MAJOR REQUIREMENTS

**Required Semester Hours:**    **BA: 48 semester hours**  
  **BS: 60 semester hours**

**Prerequisites and Supporting Courses: 12 semester hours**

☐ MATH 1510: Calculus and Analytic Geometry I (4) - *meets Analytical & Quantitative Reasoning Requirement*

☐ MATH 1520: Calculus and Analytic Geometry II (4)

☐ MATH 2030: Differential Equations (4)

**Required Core Courses:**        **BA: 32 semester hours**  
  **BS: 42 semester hours**

☐ PHEN 1210: Introductory Physics I (4) - *meets Physical Science Requirement*

☐ PHEN 2110: Modern Physics (4)

☐ PHEN 1220: Introductory Physics II (4)

☐ PHEN 2510: Electronics for Scientists (3)

☐ PHEN 1330: Mechanical Comprehension (2)

☐ PHEN 2520: Electronics Lab (1)

☐ PHEN 1410: Pursuit of Knowledge (2), *meets Writing Intensive designation*

☐ PHEN 3310: Dynamics (4)

☐ PHEN 1510: Mathematical Methods of Physics (2)

☐ PHEN 4030: Knowledge Reloaded (2)

### **BA degree:**

*select one of the following:*

☐ PHEN 3410: Electromagnetic Fields (4)

☐ PHEN 3510: Quantum Mechanics (4)

### **BS degree:**

☐ PHEN 3110: Statistical Thermodynamics (4)

☐ PHEN 3410: Electromagnetic Fields (4)

☐ PHEN 3510: Quantum Mechanics (4)

☐ PHEN 4010: Fourth Year Seminar (2)

**Elective Courses:**                **BA: 4 semester hours**  
  **BS: 6 semester hours**

Refer to the college catalog for a listing of approved elective courses

### **Notes:**

It is recommended that students take Math 3100

In addition all students will be required to write a senior thesis. Students may undertake some type of original research project which will result in a written paper to be submitted to the department for review. Students should also present their research at either a departmental symposium or at an organized off-campus meeting.

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## CORE CURRICULUM

Starting with the framework of North Park's identity as a Christian, liberal arts institution, our Core Curriculum is intentionally multi-disciplinary and multi-year. It is set up as a progress through three areas: Foundation Courses, Explorations Courses, and Capstone Courses.

<http://www.northpark.edu/Academics/Undergraduate-Studies/Core-Curriculum>

### Foundations

Preparing for more in-depth work in both the Core Curriculum and your major

Cornerstone Seminar (4sh)	
Biblical Studies (4sh)	
Health and Well-Being (2sh)	
Analytical & Quantitative Reasoning (4sh) <i>met by MATH 1510</i>	
Global Histories (4sh)	
Modern Languages (8sh)	

### Explorations

Knowledge in specific disciplines, with strong emphasis on how you can use them in the context of your own life

Art and Aesthetics (2sh)	
Christian Life & Thought (4sh)	
Life Science (2sh/lab)	
Physical Science (2sh/lab) <i>met by PHYS 1210</i>	
Culture and Society (4sh)	
Ethical Reasoning (2sh)	

### Intermediate Level Writing

Two courses in the context of your major that specifically address writing clearly and doing effective research

Writing Intensive Course (4sh) <i>partially met by PHEN 1410</i>	Research Writing Course (4sh)

### Keystone

Interdisciplinary integration of skills and knowledge applied to contemporary social issues

Keystone Seminar (4sh)	

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