## Physics Core and Major Requirements (Bachelor of Science) – Catalog Year 2012

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| 6   | **English Composition:**  
|     | □ ENGL 1013 English Composition I  
|     | □ ENGL 1023 English Composition II  
| 3   | **Mathematics:**  
|     | □ MATH 1203 College Algebra  
|     | □ MATH 1204 College Algebra with Review  
| 3   | **U.S. History or American Government:**  
|     | □ HIST 2003 US History to 1877  
|     | □ HIST 2013 US History: 1877-Present  
|     | □ PLSC 2003 American National Government  
| 9   | **Math and Science Requirements:**  
|     | To be determined by the department of major and to be selected from at least two departments other than the department of the major.  
|        | **Research/Writing Requirement:**  
|        | Majors must propose participation in a research project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).  
|        | *No graduation credit is awarded for a world language 1003 course to students continuing with the language taken in high school (See 2012-2013 Catalog of Studies)*  
| 19   | **Mathematics Requirements:**  
|     | □ MATH 2554 Calculus I (MATH 1203/1213 or 1284)  
|     | □ MATH 2556 Calculus II (MATH 2534)  
|     | □ MATH 2574 Calculus III (MATH 2564)  
|     | □ MATH 3404 Differential Equations (MATH 2564)  
|     | □ MATH 3423 Advanced Applied Mathematics (MATH 3404)  
|     | *Note: CSCE 3513 Software Engineering, CENG 4423, or MEEG 2703 can be substituted for MATH 3423 with advisor’s approval. Students are responsible for any prerequisites.*  
| 8   | **Science Requirements:**  
|     | □ CHEM 1123/1123L University Chem I (MATH 1203)  
|     | □ CHEM 1123/1123L University Chemistry II (MATH 1203 & CHEM 1103)  
|     | □ OR  
|     | An advisor approved 8 hour laboratory-based course sequence selected from the following:  
|     | □ CSCE 2004 Programming Foundations I AND  
|     | □ CSCE 2014 Programming Foundations II  
| 16   | **Concentration 1: Professional**  
|     | □ PHYS 3113 Analytical Mechanics (PHYS 2074, Pre or Co-req: MATH 3404)  
|     | □ PHYS 4333 Thermal Physics (PHYS 3614)  
|     | 10 hours numbered 3000+ Physics or Astronomy  
| 16   | **Concentration 2: Optics**  
|     | □ PHYS 3544 Optics (PHYS 2074 or MATH 2564)  
|     | □ PHYS 4734 Intro to Laser Physics (PHYS 3414, 3544) OR  
|     | □ PHYS 4734 Intro to Optical Properties of Materials (PHYS 3414, PHYS 3544)  
|     | 8 hours numbered 3000+ in Physics or Astronomy  
| 16   | **Concentration 3: Electronics**  
|     | □ PHYS 2074 Intro to Electronics I (Pre or Co-req: MATH 1203 or MATH 1285)  
|     | 2 or more hrs PHYS 320V Intro to Electronics II (PHYS 220V and MATH 2564)  
|     | □ PHYS 4333 Thermal Physics (PHYS 3614) AND  
|     | 6 hours numbered 3000+ in Physics or Astronomy  
| 10   | **Concentration 6: Astronomy**  
|     | □ PHYS 3544 Optics (PHYS 2074 or MATH 2564)  
|     | 8 semester hours of ASTR courses numbered 3000 or above  
|     | □ ASTR 3033  
|     | □ ASTR 4013  
|     | □ ASTR 4073  

*For Honors Students only*

For more information on Physics, contact the Department of Physics:  
Physics Building 226 • 479-575-2506 • www.uark.edu/depts/physics/  

**This form is NOT a substitute for the Catalog of Studies. Students should verify their graduation requirements with their advisor, their degree evaluation, and the Catalog of Studies**

_**Electives to complete the 124 minimum graduation hours**_