

Critical requirements are boldface in shaded areas

Course Subject and Title	Credit Hours	Upper Division	Min. Grade	Important Notes
Semester One: [15 Credit Hours]				
CHEM 10060 General Chemistry I	4			Fulfills LER Basic Sciences
CHEM 10062 General Chemistry I Laboratory	1			Fulfills LER Basic Sciences
MATH 12002 Analytic Geometry and Calculus I	5			Fulfills LER Mathematics and Critical Reasoning; prerequisites MATH 11010 and 11022 may be bypassed with sufficient background
PHY 12000 Introductory Physics Seminar	1			
ENG 11011 College Writing I	3			Fulfills LER Composition
US 10097 Destination Kent State: FYE	1			Not required for transfer students with 25 credits
Semester Two: [15 Credit Hours]				
CHEM 10061 General Chemistry II	4			Fulfills LER Additional
CHEM 10063 General Chemistry II Laboratory	1			Fulfills LER Basic Sciences
MATH 12003 Analytic Geometry and Calculus II	5			
PHY 23101 General University Physics I	5			
Semester Three: [15-16 Credit Hours]				
Requirement: declare the Chemistry minor				
CHEM 20481 Basic Organic Chemistry I <i>or</i> CHEM 30481 Organic Chemistry I	3-4			If CHEM 30481 is chosen, must take CHEM 30482 the following semester
MATH 32051 Mathematical Methods in Physical Sciences I	4	■		
PHY 23102 General University Physics II	5			
LER Humanities or Fine Arts	3			Should fulfill diversity requirement; visit www.kent.edu/catalog and search "LER" and "diversity" for course lists
Semester Four: [13-18 Credit Hours]				
MATH 32052 Mathematical Methods in the Physical Sciences II	4	■		
PHY 36001 Introductory Modern Physics	3	■		
CHEM 30482 Organic Chemistry II	0-3			Must select if CHEM 30481 was taken earlier
ENG 21011 College Writing II	3			Fulfills LER Composition
CHEM Elective (lower or upper division)	3-5			See note 1 on page 2
Semester Five: [15-16 Credit Hours]				
PHY 35101 Classical Mechanics	4	■		
PHY 36002 Application of Modern Physics	3	■		
Foreign Language (Elementary I)	4-5			
PHY Elective	4			
Semester Six: [14-15 Credit Hours]				
CHEM 30301 Inorganic Chemistry I	2	■		
PHY 30020 Intermediate Physics Laboratory	2	■	C	Fulfills writing-intensive course requirement
PHY 45301 Thermal Physics	3	■		
Foreign Language (Elementary II)	4-5			
LER Social Sciences	3			Should fulfill domestic diversity requirement if not satisfied earlier; visit www.kent.edu/catalog and search "LER" and "diversity" for course lists

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Semester Seven: [16 Credit Hours]				
CHEM 30105 Analytical Chemistry I	3	■		
CHEM 30107 Analytical Chemistry Laboratory I	1	■		
PHY 40092 Internship in Physics	2	■		See note 2 below
PHY 45201 Electromagnetic Theory	4	■		
LER Humanities	3			Should fulfill diversity requirement if not satisfied earlier; visit www.kent.edu/catalog and search "LER" and "diversity" for course lists
LER Social Sciences	3			
Semester Eight: [13-15 Credit Hours]				
PHY 40020 Advanced Physics Laboratory	2	■	C	Fulfills writing-intensive course requirement
LER Additional	3			Should fulfill diversity requirement if not satisfied earlier; visit www.kent.edu/catalog and search "LER" and "diversity" for course lists
LER Fine Arts	3			
PHY Elective	4			
General Elective	1-3			Number of credits required depends on meeting minimum 121 credit hours and minimum 42 upper-division credit hours

Graduation Requirements Summary

Total Hours	Upper-Division Hours	Liberal Education Requirements Hours	Diversity Course Global / Domestic	Writing-Intensive	Minimum	
					Major GPA	Overall GPA
121	42	45	LER or General Electives	PHY 30020 or PHY 40020	2.0	2.0

Note 1: Chemistry electives (3-5 credit hours), choose from the following:

CHEM 20482 Basic Organic Chemistry II *	2	CHEM 30476 Organic Chemistry Laboratory II	1
CHEM 30050 Introduction to Materials Chemistry	2	CHEM 40556 Elementary Physical Chemistry	3
CHEM 30106 Analytical Chemistry II	2	CHEM 40567 Basic Concepts of Physical Chemistry **	4
CHEM 30108 Analytical Chemistry Laboratory II	2	CHEM 40568 Elementary Physical Chemistry Laboratory ***	1
CHEM 30284 Introductory Biological Chemistry	4		
CHEM 30475 Organic Chemistry Laboratory I	1		

* CHEM 20482 may not be taken if CHEM 30481 and 30482 are taken

** Students who choose CHEM 40567 should not take CHEM 40556

*** CHEM 40568 may be selected only if CHEM 40556 or 40567 is taken as a pre/corequisite

Total courses in program must include 15 credit hours of approved CHEM courses.

Note 2: With advisor's permission, PHY 40092 may be replaced with PHY 40096 Individual Investigation or PHY 40099 Senior Honors Thesis. If PHY 40096 is taken, a suitable research project should be selected.

Additional Notes for the Physics major:

1. The following courses **may not** count towards the major:

PHY 11030 Seven Ideas that Shook the Universe	3	PHY 21430 Frontiers in Astronomy	3
PHY 21040 Physics in The Entertainment and the Arts	3	PHY 24001 Astronomy	3
PHY 21041 Physics in The Entertainment and the Arts Laboratory	1		

2. Credit is not granted for both the PHY 13001/PHY 13002 and the PHY 23101/PHY 23102 series, nor for the PHY 13011/PHY 13012 series.

Liberal Education Requirements (LER)

Students must complete a minimum 36 credit hours of Liberal Education Requirements. Colleges or degree programs may specify certain courses to fulfill the requirements. Courses in the students' major field will not count toward the completion of any LER. Honors equivalents shall satisfy the LER. None of the courses on the LER list may be taken with a pass/fail grade.

Diversity Course Requirement

Students must complete a two-course diversity requirement, consisting of one with a domestic focus and one with a global focus. One course must be come from the LER and cannot be in the student's major. The second course may be taken as a second LER; or within a major or minor; or as a general elective; or, with dean's approval, by completing one semester of study in another country.

Writing-Intensive Course Requirement

Students must complete a one-course writing-intensive requirement in their major and earn minimum C (2.00) grade.

Upper-Division Requirement

In general, baccalaureate programs require the successful completion of at least 39 upper-division (numbered 30000 to 49999) credit hours of coursework. Programs in the College of Arts and Sciences require a minimum of 42 hours of upper-division coursework.