

KEAN UNIVERSITY – COLLEGE OF NATURAL, APPLIED AND HEALTH SCIENCES  
(72104) B.S. IN CHEMISTRY (INSTRUMENTAL OPTION-ACS- CERTIFIED) 120 S.H.

Minimum GPA Required for Declaration: **2.00**

Minimum GPA Required for Major: **2.00**

Overall Minimum GPA Required for Graduation: 2.00

**EFFECTIVE DATE: Fall 2019**

GENERAL EDUCATION	32 Semester Hours (S.H.)	ACADEMIC MAJOR**	64 S.H. (Total)
<b>Foundation Requirements:<sup>1</sup> 13 S.H.</b>		<b>Major Required Courses: 47 S.H.</b>	
GE 1000 Transition to Kean –or– GE 3000 Transfer Transitions <sup>2</sup>	1	CHEM 1083 Chemistry I	4
ENG 1030 Composition <sup>3</sup>	3	CHEM 1084 Chemistry II	4
MATH 1000 <sup>1</sup> College Algebra	3	CHEM 2283 Quantitative Analysis	4
COMM 1402 Speech Communication	3	CHEM 2581 Organic Chemistry I	3
GE 2024 Research & Technology	3	CHEM 2582 Organic Chemistry II	3
		CHEM 2581L Organic Chemistry Lab I <sup>WE</sup>	1
<b>Disciplinary &amp; Interdisciplinary Distribution Requirements:<sup>1</sup> 19 S.H.</b>		CHEM 2582L Organic Chemistry Lab II	1
<b>Humanities (from different areas)</b>	<b>6 S.H.</b>	CHEM 2491 Inorganic Chemistry	3
*ENG 2403 World Literature	3	CHEM 3284 Instrumental Method of Analysis <sup>WE</sup>	4
<b>Take one "GE Approved" course from one area below</b>		CHEM 3381 Physical Chemistry I	3
Fine Arts/Art History	3	CHEM 3382 Physical Chemistry II	3
Philosophy or Religion	3	CHEM 3383 Physical Chemistry Lab and Recitation I	2
Foreign Languages (Must take I and II for credit)	3	CHEM 3384 Physical Chemistry Lab and Recitation II	2
Music or Theatre	3	BCHM 4115 Biochemistry	3
Interdisciplinary	3	BCHM 4115L Biochemistry Laboratory	1
		CHEM 4285 Chemical Separations	3
<b>Social Sciences</b>	<b>6 S.H. (from different areas)</b>	CHEM 4481 Advanced Inorganic Chemistry	3
*HIST 1062 Worlds of History	3	<b>Major Elective Courses: 14 S.H</b>	
<b>Take one "GE Approved" course from one area below</b>		<b>Choose 14 Credits from the classes below</b>	
Psychology	3	CHEM 2493 Descriptive Inorganic Chemistry Lab	2
Economics or ES 1010 World Geography	3	CHEM 3901/3902 Independent Chemistry Research	2
Political Science	3	CHEM 4150 Spectroscopic ID of Organic Compounds	3
Sociology or Anthropology	3	CHEM 4190 Medicinal Chemistry	3
Interdisciplinary	3	CHEM 4182 Advanced Organic Preparations	3
		CHEM 4284 Exp. Analytical Problem Solving	3
<b>Science and Mathematics</b>	<b>7 S.H.</b>	CHEM 4483 Inorganic Chemistry Lab	3
MATH 1054 Pre-Calculus	3	CHEM 4905/4906 Senior Honors Research	3
PHYS 2095 Physics I	4	CHEM 3291-3293 Chemistry Co-Op Internship (opt)	1-3
		CHEM 1996 Introduction to Chemistry Research (optional)	1
		<b>Major Capstone Course: 3 S.H.</b>	
		CHEM 4908 Seminar in Chemistry	3
<b>ADDITIONAL REQUIRED COURSES 24 S.H.</b>		<b>Special Notes:</b>	
BIO 1300 General Biology I	4	<sup>1</sup> See pre-requisites and equivalencies (on page 2)	
MATH 2415 Calculus I	4	<sup>2</sup> University requirement for graduation for all undergraduate students that must be satisfied in one of two ways: Complete GE 1000 (all freshmen and transfers entering with 0-29 credits) OR complete GE 3000 (transfers entering with 30 credits or more)	
MATH 2416 Calculus II	4	<sup>3</sup> ENG 1030 requires grade of C or higher	
MATH 3415 Calculus III	4	*GE Distribution course required of all students	
PHYS 2196 Physics II	4	** All Major courses require a grade of C or better	
PHYS 2197 Physics III	4		
			1

# GENERAL EDUCATION AND UNIVERSITY REQUIREMENTS

## GENERAL EDUCATION INFORMATION AND REQUIREMENTS

### Testing and Placement

Incoming freshmen and transfer students may be placed in specific GE Foundations, Developmental or ESL courses as a result of testing prior to registration. Students may be exempt from testing due to SAT scores or prior college work.

### Prerequisites and Equivalencies for GE Foundations Courses

#### **GE 1000**

Required of all freshmen & transfers entering with 0-29 credits  
Prereq: None Equiv: ID 1001

#### **GE 3000**

Required of transfers entering with 30 credits or more Prereq: 30 credits and ENG 1030

#### **ENG 1030**

Prereq: Placement testing or exemption from placement testing  
Equiv: ENG 1031/1032, ENG 1033/1034,  
ENG 1430, ENG 1620, ENG 1020, ENG 1400

#### **MATH 1000 or 1010 or 1016 or 1030**

Prereq: MATH 0901 if required by placement testing  
Equiv of MATH 1000: MATH 1001/1002, MATH 1003/1004, MATH 1051

#### **MATH 1044 or 1054**

Prereq: MATH 0901 if required by placement testing and MATH 1000

#### **COMM 1402**

Prereq: CS 0412 if required by placement testing  
ENG 1031/1032 or ENG 1033/1034 if required by placement testing May be taken concurrently with ENG 1030  
Equiv: COMM 1400

#### **GE 2021- 2026 *Research and Technology* is offered as college-based course**

GE 2021 College of BPM GE 2022 College of EDU GE 2023 College of CLA GE 2024 College of NAHS & NJCSTM & NWGC

GE 2025 SVPA & Michael Graves College

GE 2026 Undecided Majors and other special populations

Prereqs: CS 0412 if required by placement testing ENG 1030 or equivalent  
COMM 1402

Equiv: GE 2020

### GE Distribution Courses

#### **Approved GE Distribution Courses**

All courses taken under the General Education Disciplinary/Interdisciplinary Distribution requirements must be selected from the Approved General Education Distribution Course List.

These courses are designated as GEHU, GESS, and GESM.

GEHU	Humanities GESS
	Social Sciences
GESM	Science and Mathematics

#### **Required GE Distribution Courses**

**ENG 2403** is a required Humanities Distribution course with an emphasis on diversity.

Prereq: CS 0412 if required by placement testing; ENG 1030 or equivalent  
Equiv: ENG\*2203

**HIST 1062** is a required Social Sciences Distribution course. Prereq: None

#### **Foreign Language Credit**

The three credits for a foreign language that may satisfy the GE Disciplinary/Interdisciplinary Distribution Requirement are awarded only upon successful completion of the second of two semesters of study at the introductory or intermediate level.

Credit for the first semester may be used as elective credit.

## UNIVERSITY REQUIREMENTS

### GE 1000/3000 Requirement

All undergraduate students must satisfy this University Requirement for Graduation by successfully completing one of the following courses at Kean University: GE 1000 Transition to Kean (all freshmen and transfers entering with 0-29 credits) or GE 3000 Transfer Transitions (transfers entering with 30 credits or more).

### Writing-Emphasis Requirement

All students are required to complete one "Writing- Emphasis" course. The "W-E" course must be within the major portion of your program. Consult your major program advisor for specific information.