

KEAN UNIVERSITY – The Dorothy and George Hennings College of Science, Mathematics and Technology
Curriculum Sheet as of 09/01/2026
(SCITE/CPSEN) B.S. IN SCIENCE & TECHNOLOGY (Computational Science & Engineering)
120 S.H.

GENERAL EDUCATION: 31-32 S.H.		ACADEMIC MAJOR: 62 S.H.	
Essential Learning Courses*: 16-17 S.H.		Program Core Requirements	28
Critical Reading & Academic Study Skills	4	STME 2099 Math. & Comp. Methods of Science I Lab	1
<i>All students must take 1 credit in Academic Study Skills: either GE*1000 or GE*3000</i>	1	STME 2199 Math. & Comp. Methods of Science II Lab	1
<i>All students must take 3 credits in Critical Reading from the GE PLO Course List.</i>	3	STME 2299 Math. & Comp. Methods of Sci. III Lab	1
Written Communication**	3	STME 2399 Probabilistic Methods in Science Lab	1
<i>All students must take 3 credits in Written Communication from the GE PLO Course List.</i>		CPS 1231 Fundamentals of Computer Science	4
Speech Communication	3	MATH 2995 Linear Algebra (IST Section)	3
<i>All students must take 3 credits in Speech Communication from the GE PLO Course List.</i>		CPS 2231 Computer Organization & Programming	4
Quantitative & Scientific Reasoning	6-7	CPS 2232 Data Structures & Algorithm Analysis	4
<i>All students must take either MATH*1016 or MATH*1054 (3 credits each).</i>	3	MATH 2110 Discrete Structures	3
<i>All students must take 3 or 4 credits in Scientific Reasoning from the GE PLO course list.</i>	3-4	Select ONE: CPS 5965 High Performance Computing (3) OR STME 5630 Modeling & Simulation of Dynamic Systems (3)	3
Core Competency Courses: 12 S.H.		Select ONE: STME 5710 Applied Partial Differential Equations (3) OR STME 5631 Data Analysis and Visualization (3)	3
Intercultural Knowledge & Understanding	3	Program Option Requirements	24
<i>All students must take 3 credits in Intercultural Knowledge & Understanding from the GE PLO Course List.</i>		PHYS 2196 Physics II	4
Critical & Creative Thinking	3	MATH 3225 Computational Methods in Linear Algebra II	3
<i>All students must take 3 credits in the Critical & Creative Thinking from the GE PLO Course List.</i>		MATH 3415 Calculus III	4
Ethical Reasoning	3	MATH 3455 Differential Equations	3
<i>All students must take 3 credits in Ethical Reasoning from the GE PLO Course List.</i>		MATH 3940 Numerical Analysis	3
Wellness	3	STME 4805 Pedagogy of Modeling & Simulation	3
		<i>Select ONE (lecture & lab):</i>	
Inquiry & Analysis Passion Project 3 S.H.	3	CHEM 1084 Chemistry II (IST Section Required)	4
<i>All students must take 3 credits in Inquiry & Analysis from the GE PLO Course List.</i>		BIO 1400 General Biology 2 (IST Section Required)	4
*For all prerequisites and equivalencies, see page 2.			
**Requires a minimum grade of C or higher			

PROGRAM REVISION DATE (Spring 2026)

GENERAL EDUCATION AND UNIVERSITY REQUIREMENTS

GENERAL EDUCATION INFORMATION AND REQUIREMENTS

Testing and Placement

Incoming freshmen and transfer students may be placed in specific GE Essential Learning, 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 Essential Learning Courses

GE*1000

Required of all freshmen & transfers entering with 0-29 credits

Pre-requisite: None

Equivalency: ID*1001

GE*3000

Required of transfers entering with 30 credits or more

Pre-requisite: 30 credits and ENG*1030 (or equivalent)

ENG*1030

Pre-requisite: Placement testing or exemption from placement testing

Equivalency: ENG*1031/1032, ENG*1033/1034, ENG*1430, ENG*1620, ENG*1020, ENG*1400

MATH*1016

Pre-requisite: MATH*0901 if required by placement testing

Co-requisite: MATH*0902 should be taken concurrently with Math*1016 if required by placement testing

MATH*1054

Pre-requisite: MATH*0901 if required by placement testing and MATH*1000

COMM*1402

Pre-requisite: ENG*1031/1032 or ENG*1033/1034 if required by placement testing; May be taken concurrently with ENG*1030

Equivalency: COMM*1400

Inquiry & Analysis PLO

GE 2021- 2026: *Research and Technology* is offered as a college-based course.

Pre-requisite: CS*0412 if required by placement testing; Written Communication course & Speech Communication course

Equivalency: GE*2020

GE*2021: College of Business and Public Management

GE*2022: College of Education & College Health Professions and Human Services

GE*2023: College of Liberal Arts

GE*2024: College of Science, Mathematics, and Technology & College Health Professions and Human Services

GE*2025: Departments of Fine Arts, Music, and Theatre & Michael Graves College

GE*2026: Undecided Majors and other special populations

GE PLO Courses

Approved GE PLO Course List

All courses taken under the General Education Essential Learning and Core Competency requirements must be selected from the Approved General Education PLO Course List.

Foreign Language Credit

The three credits for a foreign language that may satisfy the GE Intercultural Knowledge & Understanding 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 an elective.

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

To graduate, all students are required to complete at least one "Writing Emphasis" course within their major. Such courses are designed to provide students with an opportunity to explore writing as it is done in their chosen field. Typically, Writing Emphasis courses are taken in the junior or senior year, after the student's initial composition courses are completed. Students should consult their major program advisor for specific information about the Writing Emphasis course requirement.