

KEAN UNIVERSITY – The Dorothy and George Hennings College of Science, Mathematics and Technology
Curriculum Sheet as of 09/01/2026
(ESED/TSD) B.A. EARTH SCIENCE EDUCATION/TSD (Teacher Education Option K-12)
120 S.H.
3.0. GPA Graduation Requirements

GENERAL EDUCATION: 32 S.H.		ACADEMIC MAJOR: 33 S.H.	
Essential Learning Courses*: 17 S.H.		Major Required Courses***: 16 S.H.	
Critical Reading & Academic Study Skills	4	ES 1100 Introduction to Astronomy	4
<i>All students must take 1 credit in Academic Study Skills: either GE*1000 or GE*3000</i>	1	ES 1200 Introduction to Geology	4
<i>All students must take 3 credits in Critical Reading from the GE PLO Course List.</i>	3	ES 1300 Introduction to Meteorology	4
Written Communication**	3	ES 1500 Coasts and Oceans	4
<i>All students must take 3 credits in Written Communication from the GE PLO Course List.</i>			
Speech Communication	3	Program-focused Elective Requirements: 14 S.H.	
<i>All students must take 3 credits in Speech Communication from the GE PLO Course List.</i>		Any courses ES, ENV, and SUST with at least 50% of credits at the 3000-4000 level. If the course is taken as a Major Requirement, it cannot be counted as a General Education course. Must earn a grade of C or better.	
Quantitative & Scientific Reasoning	7		
<i>All students must take either MATH*1016 or MATH*1054 (3 credits each).</i>	3	G.E. and Major Capstone: 3 S.H.**, ***	
BIO 1000 Principles of Biology** <i>All students must take this course; Education MAJORS must take BIO/PSY 1000</i>	4	ES 4981 Environmental Issues Seminar (WE)	3
Core Competency Courses: 12 S.H.			
Intercultural Knowledge & Understanding	3	Professional Education Requirements: 31 S.H.	
<i>All students must take 3 credits in Intercultural Knowledge & Understanding from the GE PLO Course List.</i>		Sophomore Level	
Critical & Creative Thinking	3	EMSE 2801 Intro to Clinical Experience K-12 ¹	3
<i>All students must take 3 credits in the Critical & Creative Thinking from the GE PLO Course List.</i>		Junior Level	
Ethical Reasoning	3	EDUC 3000 Curriculum, Evaluation, & the Learner ²	3
<i>All students must take 3 credits in Ethical Reasoning from the GE PLO Course List.</i>		RDG 3401 Language Arts/Reading K-12 ²	3
Wellness	3	EMSE 3122 Technology in Education	3
PSY 1000 General Psychology <i>All students must take this course; Education MAJORS must take BIO/PSY 1000</i>	3	EMSE 3903 Teaching English Language Learners	1
Inquiry & Analysis Passion Project: 3 S.H.	3	Senior Level	
<i>All students must take 3 credits in Inquiry and Analysis from the GE PLO Course list</i>		EMSE 4711 Clinical I Practice in Subject Area K-12 ^{3 4}	3
		EMSE 3230 Science Education K-12 ⁵	3
		EMSE 4811 Clinical II Practice in Subject Area K-12 ^{6 7}	9
		EDUC 4000 Teacher and the Classroom: Professional EDU Capstone	3

PROGRAM REVISION DATE (Spring 2026)

ADDITIONAL REQUIRED COURSES: 24 S.H.			
CHEM 1030	4	¹ Secondary Education major Acceptance into the University is NOT acceptance into the Secondary Education Department. This is a separate process. No education courses beyond EMSE 2801 may be taken until the student is declared into the program. The criteria for SE program admission/declaration includes: A. Minimum Kean GPA of 3.0. B. Completion of the following courses/minimum grades: - ENG 1030 College Composition (minimum grade of B) - COMM 1402 Speech Comm As Critical Citizenship (minimum grade of B) - EMSE 2801 Intro to Field Experience in Subject Area P-12 (minimum grade B) - Laboratory Science course (minimum grade of C) - Math requirement (minimum grade of C) C. Passing score on the Praxis II D. Two letters of recommendation E. Filing of a formal application for admission and arranging an interview	
ID 2955 Disabled Person in American Society	3	² Should be completed prior to Clinical I ³ Requires submission of application to the Teaching Performance Center (TPC) ⁴ Clinical I and II must be done back-back-to-back and in consecutive semesters 9 Should be done in conjunction with Clinical I ⁵ Clinical II Prerequisite: Passing score on the Praxis II: A passing score on the appropriate Praxis II score must be submitted to the Teaching Performance Center by the TPC's required deadline. No student may enter Clinical II unless the passing score is submitted as required.	
PHYS 2091 Physics 1	4	⁶ As an NJDOE requirement, Clinical II must be done in the final semester prior to graduation and taken in conjunction with EDUC 4000, the capstone education class. Any additional course work left to that final Clinical II semester is discouraged and may only be done with the written permission of the dean of education. All students are highly encourage to complete all course requirements beyond EMSE 4811 (Clinical II) and EDUC 4000 prior to this final Clinical II semester, as the even a few remaining credits will delay NJDOE's issue date of the Certificate of Eligibility with Advanced Standing. ⁷ Students must successfully complete the edTPA in order to be eligible for certification.	
ENV 1100 Foundations of Environmental Science**	4		
SUST 1000 Intro to Sustainability Science	3		
MATH 1054 Pre-calculus***	3		
PSY 2110 Psychology Adolescence	3		
*For all prerequisites and equivalencies, see page 2.			
**Requires a minimum grade of C or higher. Students in this program are required to complete these courses. If they are satisfied for a General Education requirement, students must take a free elective of equal credit value to ensure they meet the 120-credit requirement for graduation			
***All Major courses require a grade of C or better			
****Students in this program are required to complete both MATH 1054 and MATH 1000. One of these			

courses will fulfill a General Education requirement, while the other will apply toward the Additional Required Courses category. In addition, one course from the Additional Required Courses list (for example, CHEM 1083) may also satisfy a General Education requirement. If this occurs, students must take a free elective of equal credit value to ensure they meet the 120-credit requirement for graduation			
NOTES			
All pre-requisites for major courses must be passed with a grade of C or better.			
A minimum major GPA of 2.5 and minimum grade of C is required in all major courses,			
Students must pass the Praxis II and have a 3.0 (or higher) GPA to be declared in the education major.			
Where a program-required course appears on the approved GE PLO Course List, students may apply that course toward both their major requirement and their GE requirement, potentially reducing total credits or increasing free elective flexibility. Examples include, but are not limited to:			
MATH 1054	Quantitative Reasoning		
CHEM 1083 or BIO 1300 or PHYS 2095	Scientific Reasoning		
CHEM 1084 or PHYS 2096	Inquiry and Analysis		

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.