

KEAN UNIVERSITY
College of Natural, Applied and Health Sciences
(70302) B.S. in Biology: Cell and Molecular Option: 120 Semester Hours (S.H.)
GPA of 3.0 Required for Declaration and Graduation

EFFECTIVE DATE: FALL 2018

START TERM: _____

Name:		TRANSFER INSTITUTION(S) (X)		
Student ID #				
GENERAL EDUCATION: 35 SH		ADDITIONAL REQUIRED COURSES: 26 SH		
Foundation Requirements¹	13 SH	CHEM 1084 ³ Chemistry II	4	
GE 1000 Transition to Kean ² OR GE 3000 Transfer Transitions ²	1	CHEM 2581 ³ Organic Chemistry Lecture I	3	
ENG 1030 ³ College Composition	3	CHEM 2583 ³ Organic Chemistry Lab I	2	
MATH 1054 Precalculus ⁴	3	CHEM 2582 Organic Chemistry Lecture II	3	
COMM 1402 Speech Communication	3	CHEM 2584 Organic Chemistry Lab II	2	
GE 2024 Research & Technology	3	MATH 2415 Calculus I	4	
DISCIPLINARY & INTERDISCIPLINARY DISTRIBUTION REQUIREMENTS:		PHYS 2091 General Physics I	4	
		PHYS 2092 General Physics II	4	
Humanities (GEHU)	6 SH	ACADEMIC MAJOR COURSES³: 47-48 SH		
†ENG 2403 World Literature	3	Major Required Courses: 31		
<i>Select <u>one</u> course from the following</i>		BIO 1300 General Biology I ⁶	4	
Fine Arts/Art History	3	BIO 1400 General Biology II ⁷	4	
Philosophy or Religion	3	BIO 2910 Essentials of Bioinformatics	3	
Foreign Languages ⁵ (must take I and II for credit)	3	BIO 3315 Microbiology Lecture	3	
Music or Theatre	3	BIO 3315L Microbiology Lab	1	
Interdisciplinary	3	BIO 3709 Genetics	4	
		BCHM 4115 Biochemistry Lecture ⁸	3	
Social Sciences (GESS)	6 SH	BCHM 4115L Biochemistry Lab	1	
†HIST 1062 Worlds of History	3	BIO 4316 Immunology Lecture ⁸	3	
		BIO 4316L Immunology Lab	1	
<i>Select <u>one</u> course from the following</i>		Choose ONE (Remaining two may be taken as part of Major Electives)	BIO 4225 Cell Physiology	4
			BIO 4325 Applied Microbiology	4
			BIO 4700 Molecular Genetics	4
Economics/Geography	3	Major Electives: 16-17		
Political Science	3	<i>Additional Electives available; select with departmental advisement</i>		
Psychology	3	BIO 2500 Principles of Botany	4	
Sociology/Anthropology	3	BIO 3260 Histology	4	
		BIO 3400 Principles of Zoology	4	
		BIO 3403 Anatomy and Physiology I	4	
		BIO 3404 Anatomy and Physiology II	4	
Science and Mathematics	7 SH	BIO 3406 Neuroscience	4	
MATH 1016 Statistics	3	BIO 3420 Parasitology	4	
CHEM 1083 Chemistry I ³	4	BIO 3614 Principles of Ecology	4	
		BIO 3820 Basic Tissue Culture	4	
		BIO 4310 Virology	4	
		BIO 4911, 2, 3, 4 Special Topics	1-4	
		BIO 4961, 2, 3 Independent Research	1-3	
Major/GE Capstone	3 SH	BIO 4395, 6, 7, 8 Cooperative Education	1-4	
BIO 4970 Seminar in Integrative Biology ³	3	FREE ELECTIVES (50% at 3000-4000 level): 11-12 SH		

See superscript notes on backpage.

† GE required course

¹See prerequisites & equivalencies

²University 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)

³ENG 1030, CHEM, Capstone (BIO 4970) & Major Courses require grade C or higher

⁴with qualifying placement test scores, this course may be substituted with an elective

⁵Both I and II must be completed giving credit as a foreign language plus one free elective

⁶Students enrolled before 9/2014 may substitute BIO 2200

⁷Students enrolled before 9/2014 may substitute BIO 2400

⁸Lecture course must be taken concurrently or prior to corresponding lab

Your major's department is located in the Science Building, Room C-124 on Main Campus (telephone 908-737-3650)

You must bring this guidesheet and your KeanWise program evaluation to all advising/registration sessions

General Point Average (GPA) Requirement for the Major

As of May 8, 2012, the Biological Sciences program has formally adopted the following standard for the B.S. Biology (Cell & Molecular Option) major:

1. Minimum cumulative GPA of 3.0 at the time of application for acceptance as a declared major.
2. Minimum cumulative GPA of 3.0 must be maintained in order to remain in the Biology major.
3. Minimum cumulative GPA of 3.0 is required to register for the BIO 4970 Capstone course unless a waiver is granted.

Evaluator's Signature

Date

GENERAL EDUCATION INFO & 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

ENG 1030 Prereq: Placement testing; Equiv: ENG 1031/32; 1033/34; 1430; ENG 1020; 1400

MATH 1054 Precalc Prereq: 3 yrs secondary school math including 2 yrs algebra + 1 yr geometry or equivalent & qualifying score on placement exam or equivalent

COMM 1402 Prereq: CS 0411 or 0412 if required by testing; ENG1031/32;1033/34 Maybe taken concurrently w/ENG1030;Equiv:COMM1400

GE 2021-2024 Research & Technology is offered as college-based course

GE 2021 College of BPA; GE 2022 College of ED; GE 2023 College of AHSS; GE 2024 College of NAHS

Prereq: ENG 1030 or equivalent & MATH 1000 or equivalent; Equiv: GE 2020

Course Paired with Reading Must be taken concurrently with CS 0412 if required by placement testing.

General Education Distribution Courses

All courses under GE Disciplinary/Interdisciplinary Distribution requirements must be selected from the Approved GE Distribution Course List. (GEHU Humanities; GESS Social Sciences; GESM Science and Mathematics; GEHPE Health and Physical Education)

Required GE Distribution Courses

ENG 2403 is a required Humanities Distribution course with an emphasis on diversity. Prereq: ENG 1030 or equivalent

PSY 1000 & HIST 1062 (formerly HIST 1000 was required) is a required Social Sciences Distribution course with an emphasis on diversity.

Major/GE Capstone Course (a Capstone course is a major course that satisfies three credits of GE requirements.)

Each major guide sheet will count three credits for the Capstone as either GE credits or major credits, but not both.

Course Prerequisites (Pre/Corequisites may change, consult Keanwise; Some course may require approved petitions)

BIO 1300: Pre-requisite: MATH 1000, Co-requisite: MATH 1054

BIO 1400: BIO 1300

BIO 2500: BIO 1300

BIO 2910: BIO 1400

BIO 3260: BIO 1400

BIO 3315: BIO 1400, **BIO 3315L:** corequisite of BIO 3315

BIO 3400: BIO 2400 or 1400, CHEM 1084

BIO 3403: BIO 2400 or 1400, CHEM 2180 (Principals of Organic Chem) or CHEM 2581 (Organic Chemistry I), or instructor permission.

BIO 3404: BIO 3403

BIO 3406: BIO 3403

BIO 3420: BIO 1300

BIO 3614: BIO 2400 or 1400, MATH 1016 or instructor's permission

BIO 3709: BIO 2400 or 1400

BIO 3820: BIO 1400

BCHM 4115: CHEM 2582/2584, **BCHM 4115L:** corequisite of BCHM 4115

BIO 4225: CHEM 2582/2584, GPA \geq 2.5

BIO 4310: BIO 1400, BIO 3315, CHEM 2181

BIO 4316: BIO 1400, CHEM 2581, **BIO 4317:** corequisite of BIO 4316

BIO 4325: BIO 3315

BIO 4700: BIO 3709 and BIO 4115 or BIO 4225 or BIO 4325

BIO 4970: 20 credits of biology plus senior biology major status (requires approved petition)

CHEM 1083: Prerequisite MATH 1000 (College Algebra); Corequisite MATH 1054 (Precalc)

CHEM 1084: MATH 1054, & CHEM 1083 with grade of C or better

CHEM 2581: CHEM 1084 with grade of C or better; **CHEM 2583:** Corequisite of CHEM 2581

CHEM 2582: CHEM 2581 with grade of C or better; **CHEM 2584:** Prereq of CHEM 2583 grade of C or better & corequisite of CHEM 2582

MATH 2415: MATH 1054 (Precalc)

PHYS 2091: MATH 1054 (Precalc) or equivalent; **PHYS 2092:** PHYS 2091