

**KEAN UNIVERSITY**  
**College of Natural, Applied, and Health Sciences**  
**(70302) B.S. in Biology- Cell and Molecular Option: 124 S.H.**

EFFECTIVE DATE: Fall 2014

START TERM: \_\_\_\_\_

Name:			TRANSFER INSTITUTIONS (X)		
Student ID#			In Progress		
<b>GENERAL EDUCATION: 35 Semester Hours</b>			<b>ADDITIONAL REQUIRED COURSES: 26 SH</b>		
<b>FOUNDATION REQUIREMENTS<sup>1</sup>: 13 SH</b>			CHEM 1084 General Chemistry II <sup>3</sup> 4		
GE 1000	Transition to Kean <sup>2</sup>	1	CHEM 2581 Organic Chemistry Lect I <sup>3</sup> 3		
ENG 1030	College Composition <sup>3</sup>	3	CHEM 2582 Organic Chemistry Lect II 3		
MATH 1054	Precalculus <sup>4</sup>	3	CHEM 2583 Organic Chemistry Lab I <sup>3</sup> 2		
COMM 1402	Speech Communication	3	CHEM 2584 Organic Chemistry Lab II 2		
GE 2024	Research & Technology	3	MATH 2415 Calculus I 4		
<b>DISCIPLINARY &amp; INTERDISCIPLINARY DISTRIBUTION REQUIREMENTS</b>			PHYS 2091 General Physics I 4		
			PHYS 2092 General Physics II 4		
<b>Humanities: 6 SH</b>			<b>ACADEMIC MAJOR COURSES<sup>3</sup>: 51-52 SH</b>		
†ENG 2403 World Literature 3			<b>Major Required Courses: 24</b>		
<i>Select <u>one</u> course from the following</i>			BIO 1300 General Biology I <sup>6</sup> 4		
Fine Arts/ Art History 3			BIO 1400 General Biology II <sup>7</sup> 4		
Philosophy or Religion 3			BIO 3305 Microbiology 4		
Foreign Languages (must take I and II for credit) 3			BIO 3709 Genetics 4		
Music or Theatre 3			BIO 4105 Essentials of Biochemistry 4		
Interdisciplinary 3			BIO 4315 Immunology 4		
<b>Social Sciences: 6 SH</b>			<b>Major Electives: 27-28</b>		
†HIST 1062 Worlds of History or HIST 1000 3			<i>Selected with departmental advisement</i>		
<i>Select <u>one</u> course from the following</i>			BIO 2500 Principles of Botany 4		
Economics / Geography 3			BIO 3260 Histology 4		
Political Science 3			BIO 3400 Principles of Zoology 4		
Psychology 3			BIO 3403 Anatomy & Physiology I 4		
Sociology / Anthropology 3			BIO 3404 Anatomy & Physiology II 4		
Interdisciplinary 3			BIO 3406 Neuroscience 4		
			BIO 3420 Parasitology 4		
			BIO 3614 Principles of Ecology 4		
<b>Science and Mathematics: 7 SH</b>			BIO 3820 Basic Tissue Culture 4		
MATH 1016 Statistics (BIO Section) 3			BIO 4225 Cell Physiology 4		
CHEM 1083 General Chemistry I <sup>3</sup> 4			BIO 4310 Virology 4		
			BIO 4325 Applied Microbiology 4		
			BIO 4395,6,7,8 Cooperative Educ 1-4		
			BIO 4700 Molecular Genetics 4		
			BIO 4704 Molec Biology of Genes 3		
			BIO 4911,2,3,4 Special Topics BIO 1-4		
			BIO 4961,2,3 Independent Research 1-3		
<b>Major/GE Capstone Course: 3 SH</b>			<b>FREE ELECTIVES</b> No less than 50% at the 3000-4000 level 11-12		
BIO 4970 Seminar in Integrative Biology <sup>3</sup> 3			1)		
			2)		
			3)		

See superscript notes on backpage.

**Must complete Major with 3.0 GPA**

Notes:

- † GE required course  
1 See prerequisites and equivalencies  
2 Required of all freshmen / transfers with < than 10 credits  
3 ENG1030, CHEM, major courses, and capstone (BIO 4970) all require a grade of C or better.
- 4 With qualifying placement test scores, this course may be substituted with an elective  
5 Both I & II must be completed giving credit as a foreign language plus one free elective  
6 Students enrolled before 9/2014 may substitute BIO 2200  
7 Students enrolled before 9/2014 may substitute BIO 2400

**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.**

### Grade 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.

\_\_\_\_\_  
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 placement testing; ENG 1031/32; 1033/34 May be taken concurrently with ENG 1030; Equiv: COMM 1400

**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 1000 was required) is a required Social Sciences Distribution course with an emphasis on diversity.

#### 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 two semesters of study at the introductory or intermediate level.

#### 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 Course Descriptions: Some course may require approved petitions)

**BIO 1300:** Corequisite MATH 1000 or equivalent placement

**BIO 1400:** Prerequisite BIO 1300 and Corequisite MATH 1054 (Precalculus)

**BIO 2500:** BIO 2400 (Genes, Org, Pop) or 1400 (Gen Bio II)

**BIO 3400:** BIO 2400 or 1400, CHEM 1084 (Gen Chem I)

**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 3614:** BIO 2200 or 1300, or instructor permission

**BIO 3709:** BIO 2400 or 1400

**BIO 4835:** MATH 1054 (Precalculus) & 16 credits of biology

**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:** Prerequisite 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