

Demonstration School of Suan Sunandha Rajabhat University, English Program

Class Information and Learning Approach

Instructor: Ajchara Aksomboon Vongsawan

The Goal:

The three-year Biology curriculum serves as a pre-requisite for Science-Math majors in preparation for entering biomedical sciences as well as other science fields.

Mathayom 4 (Secondary Grade 10): Year 1 Biology 1, 2

Mathayom 5 (Secondary Grade 11): Year 2 Biology 3, 4

Mathayom 6 (Secondary Grade 12): Year 3 Biology 5, 6

The study approach adheres to the Thai curriculum using combination of US and Singaporean textbooks with emphasis in preparing students to apply analytical thinking in the subject matter. English is the language of instruction in the English Program. Students planning to enter the biomedical field or medical field within the Thai university system are advised to read a Thai version of textbook in preparation for their entrance exam due to technical term discrepancy that may be used in Thai exams. Pre-med and biomedical science students will be expected to pay close attention to current knowledge of bioscience technology for future use at undergraduate university level.

Grade 11 (M5) Year 2: Biology 4 Semester 2: (SCI 32242) 1.5 Credits, 60 hours	
Course Content	Details
Unit 1: Respiratory System and Circulatory System	<ul style="list-style-type: none">• Gas Exchange in Living Things• Open and Closed Circulatory System• The Structure and Function of Mammalian Heart.• Human Circulatory System
Unit 2: Maintaining Homeostasis in the body	<ul style="list-style-type: none">• Excretion of waste product in Unicellular Organisms, invertebrates, and vertebrates including humans• Kidney Function• Kidney Diseases
Midterm Exam	Material Covered from Units 1 and 2
Unit 3: Digestive System	<ul style="list-style-type: none">• Digestive System in Micro-organisms• Digestion System in Mammals• Digestion System in Humans

Demonstration School of Suan Sunandha Rajabhat University, English Program

Class Information and Learning Approach

Unit 4: Immune System	<ul style="list-style-type: none">• Defence Mechanisms of the Body• Types of Immune System• Components of the Immune System• Immune Deficiency
Final Exam	Material Covered from Units 3 and 4
Grading and Evaluation	
Percent Allocation	Percent
Attendance and Participation	10
Assignments and Quiz	20
Experiments and Lab Report	30
Midterm	20
Finals	20
Grade	Percent
A	80-100
B+	75-79
B	70-74
C+	65-69
C	60-64
D+	55-59
D	50-54
F	Below 50

Expectations from students:

- (1) to always attend class
- (2) to critically read the assigned material before class
- (3) to enthusiastically participate in class discussions and problem-solving sessions
- (4) to diligently prepare for all exams

Study and Reading Materials

(1) Campbell PowerPoint Lectures and uploads given in conjunction with textbooks

(2) Textbooks

2.1. Biology: A Global Approach, Global Edition, 10/E

Neil A. Campbell, University of California, Riverside

Jane B. Reece, Palo Alto, California

Lisa Urry

Michael L. Cain, Bowdoin College, Brunswick, Maine

Demonstration School of Suan Sunandha Rajabhat University, English Program

Class Information and Learning Approach

Steven A Wasserman, University of California, San Diego

Peter V Minorsky, Mercy College, Dobbs Ferry, New York

Robert B Jackson, Duke University, Durham, North Carolina

or equivalent version.

2.2. Biology for AP® Courses SENIOR CONTRIBUTING AUTHORS JULIANNE ZEDALIS,
BISHOP'S SCHOOL JOHN EGGBRECHT, BROOKLYN TECHNICAL HIGH
SCHOOL, OpenStax©2018 Rice University.

2.3. New Century Elective Biology: Secondary 4,5, and 6.
Hodder Education Singapore, 2019 Edition.
Beverly Tay, Loo Kwok Wai, Ong Bee Hoo, and Janlin Chan

(3) Video Clips and Scientific Readings from Journals