**Instructor:** Ajchara Aksomboon Vongsawan

**Semester 2:** (SCI 33242) 1.5 Credits, 60 hours

Science majors in Mathayom 6, Secondary Grade 12, continues semester 2 of 2021 Academic School Year with Advanced level Biology 6 (SCI 33242) with aim to cover and highlight the biodiversity of living organism students have studied from previous years with focus on understanding methods leading to taxonomy and biological classification. Locomotion and Animal Behavior will also be covered with emphasis on innate and learned behaviors. Group presentation will be assigned focusing on animal behavior. Students are also expected to acquire hands-on experiments. In order to finalize a three-year biology curriculum, reviews will be given in preparation for undergraduate college level.

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| **Grade 12 (M6) Year 3 Biology 6**  **Semester 2: (SCI 33242) 1.5 Credits, 60 hours** | |  |
| **Course Content** | **Details** |  |
| **Unit 1: Biodiversity** | • Kingdoms of Life  • The Origin of Life and the Cell Theory  • Taxonomy and Biological Classification  • Binomial Nomenclature | Campbell Biology  Chapters 26-28, 31  Elective Biology 5: Chapter 3 |
| **Midterm Exam** | **Material Covered from Unit 1** |  |
| **Unit 2:** **Muscular and Skeletal System** | • Protein Filaments for muscle function  • Interaction of Protein Filaments for Muscle  Function  • Muscular System in vertebrate: Skeletal, Smooth, and Cardiac Muscle | Campbell Biology:  Muscular System  Elective Biology 5: Chapter 7 |
| **Unit 3: Animal Behavior** | • Mechanism of Animal Behavior  • Inherited Behavior  • Learned Behavior | Campbell Biology:  Animal Behavior  Elective Biology 5: Chapter 6 |
| **Final Exam** | **Material Covered from Units 2 and 3** |  |

**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

**Evaluation Points**

Laboratory Experiment(s) 10

Lab Report 10

Research Project from published research on Animal Behavior

(Group Work with Presentation)20



Pop Quiz10 (+Concept map)

Class Attendance/Class Participation 10

Midterm 20

Final Exam 20

**Study and Reading Materials:**

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

**(2) Textbook**

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

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**.

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