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| Course Title | Introduction to Natural/Life Science | Instructor(s) | Melody Muguerza Jason Adachi |
| E-mail | mmuguerza@sky.miyazaki-mic.ac.jpjadachi@sky.miyazaki-mic.ac.jp |
| Class Style | Lecture | Office Hours | 4th Period on Wednesday and Thursday, or by appointment |
| Track | General Education | Mode of Instruction | Team |
| Credits | 2 | Allocated Year | First Year |
| Active Learning | Interactive lecturesSpoken summariesPair and group workExperimental workField Study workPresentations | Compulsory or Elective  | Elective for TC track |
| Course Overview | Introduces concepts, experimental techniques, and scientific methodologies for exploring a natural life system. Examines aspects of the theory of evolution, morphology and physiology of the organisms composing the natural life systems, i.e., Monera, Protista, Animalia, Plantae and Fungi. |
| Course Objectives | Content Objectives: * Be familiar with the basic principles of evolutionary ecology (e.g. adaptation, natural selection, sexual selection, and biological interactions),
* Be familiar with similarity and diversity as the two faces of evolution,
* Be familiar with diversified organisms around us.

 Language Objectives:* Know the vocabulary, and sentence structures necessary to discuss topics related to natural science,
* Know how academic science papers and reports are organized in English,
* Learn how to write a scientific report in English.
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| Prerequisite | None |
| **Course** **Schedule** | No | Contents | Homework |
| 1 | What are the characteristics of living things and how do you determine if a thing is alive? (Asking yes/no and WH questions.) | Read the text and answer comprehension questions.  |
| 2 | What is the scientific method? What is spontaneous generation?  | Read the text and answer comprehension questions. |
| 3 | What do we know about the first life (the first thing displaying these characteristics)? How might it have formed?  | Read the text and answer comprehension questions. Field Assignment #1Experiment #1 |
| 4 | Why are there differences among living things? How are prokaryotic and eukaryotic cells different? How are unicellular and multicellular organisms different? | Read text and answer comprehension questions. |
| 5 | How are anaerobic/aerobic, heterotroph/autotroph and asexual/sexual different?  | Read text and answer comprehension questions. |
| 6 | What are the advantages and disadvantages of these contrasting features?  | Read text and answer comprehension questions.Experiment #1 report dueField assignment #2 |
| 7 | Why do organisms change over time? What are evolution and adaptation? | Prepare for the midterm review and exam |
| 8 | Midterm ReviewMidterm Exam | Read text and answer comprehension questions. |
| 9 | How are features passed from parent to offspring? What are the principles of basic genetics? | Read text and answer comprehension questions.Field assignment #3 |
| 10 | What is Darwinian natural selection?  | Read text and answer comprehension questions. |
| 11 | What is sexual selection? | Read text and answer comprehension questions.Experiment #2 |
| 12 | Phylogeny and more on adaptation  | Read text and answer comprehension questions. |
| 13 | Predator-prey relationships | Reading text and answering questionsField assignment #4 |
| 14 | Plant-animal interactions - pollination and seed dispersal  | Read text and answer comprehension questions. |
| 15 | Conservation biology, ecological succession, and course review  | Preparation of Final Exam Experiment #2 report due |
|  | Final Exam |  |
| Grading | Grades will be determined as follows:Homework 20%, Written reports 10%, Quizzes 20%, Exams 40%, Participation 10%. |
| Textbooks | Course materials will be provided by instructors |
| References |  |
| NOTES | Missing the equivalent of 5 classes will result in an automatic failure. This includes late arrivals and early departures from class. Note that absence or tardiness will generally not be accepted as a valid excuse for incompletion or late submission of any task or assignment. Appropriate and timely communication by students to the instructors is expected. |