College/School of \_\_\_\_\_\_\_\_\_

UP Cebu

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| --- | --- |
| **UP Vision** | Leading Regional and Global University in an Environment that Sustains 21st Century Learning, Knowledge Creation and Public Service for Society and Humanity |
| **UP Mission** | *Please refer to the attached document* |
| **UP Core Values** | Honor and Excellence |
| **UP Cebu Vision** | A lead university in pioneering research, creative design, ICT-driven innovation, responsible governance and community service in Central Visayas and the global society |
| **UP Cebu Mission** | UP Cebu promotes scientific, socio-economic, cultural and environmental progress in Central Visayas, in the nation and the world through creative and innovative instruction, research, intellectual productivity, and public service. UP Cebu:* offers accessible quality graduate, undergraduate, and continuing education that will produce innovative, critical, nationalist, ethical, gender-sensitive and socially responsible graduates who demonstrate high levels of academic pursuit;
* conducts pioneering research, and develops novel and creative technologies through transdisciplinary collaboration;
* applies products of knowledge generation, dissemination, and intellectual productivity to improve social welfare; and
* ensures administrative efficiency in the delivery of excellent, responsible service in support of learning, research, intellectual productivity and public service.
 |
| **College Vision** |  |
| **College Mission** |
| **Department’s Vision** | *Only if applicable* |
| **Department’s Mission** | *Only if applicable* |

COURSE NUMBER :

COURSE TITLE :

COURSE DESCRIPTION :

COURSE CREDIT :

PREREQUISITE :

EXPECTED LEARNING OUTCOMES AND RELATIONSHIP TO PROGRAM LEARNING OUTCOMES (Sample)

|  |  |
| --- | --- |
| Course Outcomes | Program Outcomes\* |
| At the end of the course, the students should be able to: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| * *identify and describe the basic ecological and evolutionary principles that underlie the diversity of life on Earth;*
 | x | x | x |  | x |  | x |  |
| * *examine the impact of a species on the distribution and abundances of other species on a local and global scale; and,*
 | x | x | x | x | x |  | x |  |
| * *design and present major solutions to the problem of biodiversity depletion.*
 | x | x | x | x | x |  | x | x |

PROGRAM OUTCOMES (Sample)

1. Develop critical understanding of the concepts in the natural and physical sciences.
2. Apply the process of identifying a scientific problem, developing a hypothesis, and proposing tests, through adaptive and versatile methods of knowledge generation.
3. Evaluate different scales of biological systems using quantitative reasoning.
4. Use emerging methods and tools acquired from different scientific disciplines in the study of biological systems.
5. Embody the principles of ethics in the academic, social, and professional contexts.
6. Integrate knowledge and skills in the conduct of research in the field of biology and related sciences that can contribute to nation-building.
7. Effectively communicate scientific ideas and findings in oral, written, and digital forms to diverse audiences.
8. Exhibit a high sense of responsibility and service to the university and society.

METHODS FOR ASSESSING THE EXPECTED LEARNING OUTCOMES

(Sample)

The concepts and applications in this course will be taught using slide presentations, learning objects, film showing, and inviting a resource person(s). The lecture will also be enhanced by assignments, group discussions of case studies, quizzes, exams and a field trip.

COURSE COVERAGE (Sample)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No. of hrs.** | **Course Topic** | **Learning outcome/s** | **Teaching and Learning Strategies** | **Resources/ References** | **Suggested Output(s)** | **Suggested Assessment Tools/****Activities**  |
| 3.0 | 1. Introduction to Biodiversity and Conservation
 | * be familiar with the course syllabus (containing the course requirements, expected output, grading system, etc.)
* define biodiversity
* discuss the importance of conserving biodiversity
 | * class lecture and discussion
* assign reading for next topic
* video showing (3 mins)
 | * Biodiversity BC. 2007. Ecological concepts, principles and application to conservation (pp.1-2). Retrieved 12 Jan 2018, from http://www.biodiversitybc.org/EN/main/where/131.html
* Millenium Ecosystem Assessment. 2005. Ecosystems and human well-being: biodiversity synthesis. World Resources Institute, Washington, D.C. pp. 18-19
* Video: “What is Biodiversity” (by WWF) at https://www.youtube.com/watch?v=b6Ua\_zWDH6U
 |  |  |
| 3.0 | II. What Do We Have?1. Biodiversity of the world
2. Philippine biodiversity
 | * describe local and world biodiversity
 | * lecture (ppt presentation)
* guided discussion
* viewing of video (12 mins)
 | * Wilson EO, Baird, FB Jr. 1988. The current state of biological diversity. Chapter 1. *In* Wilson EO, Peter FM (eds.). Biodiversity. Washington (DC): National Academies Press (US).
* Convention on Biological Diversity [CBD]. 2001. Chapter 1: Status and trends of global biodiversity. Canada: Secretariat of the Convention on Biological Diversity. pp. 59-64
* CBD. n.d. Philippines - Main Details: Biodiversity facts. Retrieved 29 Aug. 2019 at https://www.cbd.int/countries/profile/?country=ph
* Millenium Ecosystem Assessment. 2005. Ecosystems and human well-being: biodiversity synthesis. World Resources Institute, Washington, D.C. pp. 19-21.

Videos:* “Philippine Biodiversity” at https://www.youtube.com/watch?v=81l\_2HQERz4
* “Wild Birds of the Philippines” at https://www.youtube.com/watch?v=cetDU-Dxo\_E
 | * answers to quiz
 | Quiz (20 pts total of multiple choice & true or false) |
| 7.0 | III. Forms of Biodiversity1. Genetic diversity
2. Species diversity
3. Population structure
4. Communities
 | * describe the different levels and forms of biodiversity and their relationships
 | * lecture (ppt presentation)
* guided discussion
* viewing of videos (26.5 mins) and a film (60 mins)
 | * Videos: “What is Biodiversity?” at https://www.youtube.com/ watch?v=a5vi5SNQBLQ; “Biodiversity” by Bozeman Science at https://www.youtube.com/watch?v=0-PE3ve3w2w; “Communities” by Bozeman Science at https://www.youtube.com/watch?v=pOp-qLLTMso
* Film: BBC’s Planet Earth II: Jungles
* Biodiversity BC. 2007. Ecological concepts, principles and application to conservation (pp.1-2). Retrieved 12 Jan 2018, from http://www.biodiversitybc.org/EN/main/where/131.html
 | * answers to quiz
 | Quiz (30 pts total of multiple choice & true or false) |
| 4.5 | IV. Extinction1. Patterns of extinction
2. Mass extinctions
3. Slow recoveries
 | * examine the effects of extinction on the distribution and abundances of species
 | * lecture (ppt presentation)
* guided discussion
* video showing (12.5 mins)
 | * Video: Biodiversity and extinction, then and now by California Academy of Sciences (12:21) at https://www.youtube.com/watch?v=v8PPsI0LqOY
* Convention on Biological Diversity [CBD]. 2001. Chapter 1: Status and trends of global biodiversity. Canada: Secretariat of the Convention on Biological Diversity. pp. 70-76
 |  |  |
| 1.5 | FIRST LONG EXAM (Coverage: Parts I-IV) |
| 10.5 | V. Causes of Population Decline1. Population bottlenecks and genetic diversity
2. Gene flow/ management measures; one-migrant-per-generation rule
3. Selection and migration; inbreeding/ outbreeding depression
4. Habitat loss and degradation
5. Over-exploitation
6. Exotic species and diseases
7. Climate change
 | * discuss the different causes of population decline (inherent and environmental)
* examine the role of humans on population decline
 | * lecture (ppt presentation)
* guided discussion
* brainstorming
* video (7 mins) and film showing (60 mins)
* creating a problem tree (by group)
 | * Ehrlich PR. 1988. The loss of diversity causes and consequences. Chapter 2. *In* Wilson EO, Peter FM (eds.). Biodiversity. Washington (DC): National Academies Press (US).
* Millenium Ecosystem Assessment. 2005. Ecosystems and human well-being: biodiversity synthesis. World Resources Institute, Washington, D.C. pp. 8-10
* Convention on Biological Diversity [CBD]. 2001. Chapter 1: Status and trends of global biodiversity. Canada: Secretariat of the Convention on Biological Diversity. pp. 115-116
* Biodiversity Management Bureau-Department of Environment and Natural Resources [BMB-DENR]. 2017. “Annex 4: Examples of commonly found Invasive Alien Species (IAS) in the Philippines.” Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028. UNEP. pp. 159-163
* Video: “Genes and biodiversity” by California Academy of Sciences (6:40) at https://www.youtube.com/watch?v=XOxsjdB4-ZQ&t=320s
* Film: BBC’s Planet Earth II: Cities
 | * answers to quiz
* a problem tree (group activity—problems taken from the BBC film)
 | * Quiz (30 pts total of multiple choice & true or false)
* Rubrics 1a (for problem tree)
 |
| 10.5 | VI. Conservation and Restoration Efforts1. Small population conservation
2. Island biogeographic theory and conservation practice
3. Ex-situ conservation
4. Conservation reserves
5. Endangered species act
6. Habitat restoration
 | * discuss the different conservation and restoration efforts
* come-up with solutions to the problem of biodiversity depletion
 | * lecture (ppt presentation)
* video (10 mins) and film showing (60 mins)
* guided discussion
* brainstorming by group
* presentation by group
 | * Millenium Ecosystem Assessment. 2005. Ecosystems and human well-being: biodiversity synthesis. World Resources Institute, Washington, D.C. pp. 10-14; 70-76
* BMB-DENR. 2017. “Policy, Governance and Financing of Biodiversity Conservation in the Philippines.” Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028. UNEP. pp. 69-79
* Fiedler and Kareiva. 2013. Conservation Biology - For the Coming Decade. 2nd ed. Springer Science and Business Media.
* Video: Conservation Biology, Habitat Fragmentation, and Metapopulations by Joshua Anderson
* Film: BBC’s Planet Earth II: Islands
 | * group presentation of topics under conservation and restoration efforts (include sample of best practice)
 | Rubrics 2b (for group presentation) |
| 6.5 | VII. Valuing Biodiversity1. Economics
2. Ethics and aesthetics
 | * analyze the relationships and conflicts between economic development and biodiversity conservation, as well as moral and ethical issues
 | * lecture (ppt presentation)
* guided discussion
* brainstorming by group
* video showing (22 mins; about relationship between economy and environment)
 | * Millenium Ecosystem Assessment. 2005. Ecosystems and human well-being: biodiversity synthesis. World Resources Institute, Washington, D.C. pp. 6-8; 38-41
* McNeely et al. 2011. The Wealth of Nature: Ecosystem Services, Biodiversity, and Human Well-Being. 2011. Cemex Conservation Book Series.
* BMB-DENR. 2017. Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028. UNEP. pp. 25-31

Videos: * “Economy and the Environment” at https://www.youtube.com/watch?v=IF9YsVpZnSE
* “Valuation of Ecosystem Services: Intro to Valuation” at https://www.youtube.com/watch?v=0CHIs9dLvxA
* “Valuation of Ecosystem Services: Classes of Values at <https://www.youtube.com/watch?v=q8AZHtF2f50>
 | * reaction paper (individual)
 | Rubrics 3c (for individual write-up) |
| 1.5 | SECOND LONG EXAM (Coverage: Parts V-VII) |
| 48 |  |

**aRubrics 1 for the Problem Tree**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CRITERIA | 5 | 4 | 3 | 2 |
| Accuracy of content(60%) | All information are accurate and presented in correct order | Almost all information are accurate and presented in correct order | Most information are accurate and presented in correct order | Some information are accurate and presented in correct order |
| Required elements(20%) | Information included were more than what was required | All required information were included | Most information required were included | Some information required were included |
| Clarity and relevance(20%) | It is easy to understand the tree because all the graphics and prints are relevant | Almost all graphics and prints used are relevant | Most graphics and prints used are relevant | Some graphics and prints used are relevant |

**bRubrics 2 (for group presentations)**

Encircle the appropriate score for the group with 4 as the highest and 0 as the lowest.

|  |
| --- |
| **CONTENT**: 4 3 2 1 0 Topic(s) covered thoroughly Enough information given to understand topic(s) Did not exclude any important information or include  any unnecessary information |
| **DESIGN**: 4 3 2 1 0 Very creative Easy to see and follow Did not include any unnecessary graphics |
| **KNOWLEDGE**: 4 3 2 1 0 Shows an understanding of the material Able to answer questions |
| **PARTICIPATION**: 4 3 2 1 0 Does their “fair share” in presenting the material Participates in each part of the presentation |
| **HANDS-ON ACTIVITY**: 4 3 2 1 0 Included class in the learning process Did more than lecture to the class  |
| **LENGTH**: 4 3 2 1 0 Enough to adequately cover assigned material within  the allotted time |
| **TOTAL**   |
|

|  |  |  |  |
| --- | --- | --- | --- |
| Score | Equiv. % | Score | Equiv. % |
| 24 | 100% | 14 | 58% |
| 23 | 96% | 13 | 54% |
| 22 | 92% | 12 | 50% |
| 21 | 88% | 11 | 46% |
| 20 | 83% | 10 | 42% |
| 19 | 79% | 9 | 38% |
| 18 | 75% | 8 | 33% |
| 17 | 71% | 7 | 29% |
| 16 | 67% | 6 | 25% |
| 15 | 63% | 5 | 21% |

 |

c**Rubrics 3 (for individual write-up)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **4** | **3** | **2** | **1** |
| **Content****(50%)** | Discussion reflects a very good perception of key ideas from the topics and resources.Content is factually correct. | Discussion reflects a good perception of key ideas from the topics and resources.Content may have one or two factual errors. | Discussion reflects a fair perception of key ideas from the topics and resources.Content contains significant factual errors. | Discussion and content unrelated to key ideas from the topics and resources. |
| **Organization****(20%)** | Clear sense of order. Begins with a thesis or topic sentence. Supporting points are presented in a logical progression. | May lack a thesis sentence, but points are presented in a logical progression. | Logic of argument is minimally perceivable. Pointspresented in a seemingly random fashion, but all support the argument. | Lacks clear organizational plan. Reader is confused. |
| **Development****(20%)** | Develops each point with many specificdetails. All important points included. | Each point supported with some details and evidence. Some important points included. | Sparse details or evidence. Few important points included. | Statements are unsupported by any detail or explanation. Repetitious, incoherent, illogical development. |
| **Use of Language****(10%)** | Uses technical or scientific terminology appropriately and correctly. No major grammatical or spelling errors. | Accurate word choice. No more than 2 major errors and a few minor errors. | Ordinary word choice; use of scientific terminology avoided. Some serious errors (but they don’t impaircommunication). | Limited vocabulary; errors impair communication. |

COURSE REQUIREMENTS (Sample)

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| --- | --- | --- |
| Quizzes, assignments, projects, etc. | 40% | Instructions are made available in every activity |
| Long exams  | 60% | Coverage of each exam will be announced at least 1 week before the exam schedule |
| Total | 100% |  |

GRADING SYSTEM

96-100% --------------- 1.0 70-74.99% --------------- 2.5

93-95.99% --------------- 1.25 65-69.99% --------------- 2.75

89-92.99% --------------- 1.5 60-64.99% --------------- 3.0

85-88.99% --------------- 1.75 55-59.99% --------------- 4.0

80-84.99% --------------- 2.0 ≤54 --------------- 5.0

75-79.99% --------------- 2.25 INC --------------- lacking

requirements

CLASS POLICIES

FACULTY RESOURCE