Republic of the Philippines
RAMON MAGSAYSAY TECHNOLOGICAL UNIVERSITY
SAN MARCELINO CAMPUS
San Marcelino, Zambales
COLLEGE OF TEACHER EDUCATION, ARTS AND SCIENCES

COURSE SYLLABUS in ZOOLOGY

Second Semester, AY 2016-2017

University Vision	RMTU shall be a progressive learner-centered research university and recognized in ASEAN Region in 2020.
University Mission	RMTU shall primarily provide instruction, undertake research and extension and provide advanced studies and progressive leadership in agriculture, forestry, engineering, technology, education, arts, sciences, humanities and other fields as may be relevant to the development of the Province.
I. COURSE CODE	Major 4
II. COURSE TITLE	Zoology
III. COURSE DESCRIPTION	The course covers provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla.
IV. CREDIT	5 units (3-hour lecture & 6-hour lab)
V. CONTACT HOURS	9 hours/week | 162 hours / semester
VI. PLACE OF THE COURSE IN THE PROGRAM OF STUDY:	Specialization
VII. PRE-REQUISITE	NS 2
VIII. GENERAL OBJECTIVES	At the end of the course, the students should be able to: 1. Define zoology as a science; 2. Analyze the animal form and function, including comparative systems of selected groups; 3. Demonstrate a sense of responsibility in preserving the nature's fauna.

IX. COURSE CONTENT/ COURSE OUTLINE:

LEARNING CONTENTS (TOPICS/TASKS)	EXPECTED OUTCOMES (SPECIFIC OBJECTIVES)	TIME FRAME
University Vision and Mission College Goals BSED Program Objectives	At the end of the unit, the students should be able to: ▪ Internalize and uphold the university's vision and mission; ▪ Understand the college goals and program objectives.	1
1. Introduction to the Living Animal 1.1. Zoology: The Study of Animals 1.2. History of Zoology 1.3. Specializations in Zoology 1.4. Zoology: An Evolutionary Perspective 1.5. Zoology: An Ecological Perspective	▪ Define zoology as a branch of biology; ▪ Trace the historical timeline of zoology; ▪ Become acquainted with notable personalities in the field; ▪ Identify the different specializations in zoology; ▪ Explain the family relationships among animals and how the great variety of animals arose; ▪ Analyze how human interference threatens animal populations and the human environment.	15
2. Levels of Organization in Animal Complexity 2.1. Cells as Basic Unit of Life 2.2. Animal Tissues 2.3. Organ and Organ Systems	▪ Recall cell as the most basic unit of life; ▪ Review the functions of the different cell organelles; ▪ Differentiate the types of animal tissues; ▪ Define organ and organ systems.	10
3. Evolution: A Historical Perspective 3.1. Evidence of Evolution 3.2. Theories of Evolution	▪ Define evolution; ▪ Explain the different theories of evolution.	7
4. Ecology: Preserving the Animal Kingdom	▪ Cite some interactions prevailing between animals and its abiotic environment;	12

4.1. Animals and Their Abiotic Environment 4.2. Populations 4.3. Interspecific Interactions 4.4. Communities 4.5. Ecological Problems	▪ Define population; ▪ Enumerate interspecific interactions among animals; ▪ Give the unique attributes of communities; ▪ Demonstrate actions to resolve ecological problems.	
5. Animal Classification, Phylogeny and Organization 5.1. Classification of Organisms 5.2. Evolutionary Relationships and Tree Diagrams 5.3. Patterns of Organization 5.4. Higher Animal Taxonomy	▪ Identify the hierarchical classification of animals; ▪ Describe the evolutionary relationships of animals; ▪ Enumerate the patterns of organization. ▪ Distinguish the higher animal taxonomy.	8
PRELIMINARY EXAMINATION		**1**
6. Animal-Like Protists 6.1. Protozoan Taxonomy 6.2. Phylum Sacromastigophora 6.3. Phylum Labyrinthomorpha 6.4. Phylum Apicomplexa 6.5. Phylum Microspora 6.6. Phylum Acetospora 6.7. Phylum Myxozoa 6.8. Phylum Ciliophora	▪ Enumerate the characteristics of protozoans; ▪ Describe and differentiate the different animal-like protists.	7
7. Multi-Cellular and Tissue Levels of Organization 7.1. Phylum Porifera 7.2. Phylum Cnidaria (Coelenterata) 7.3. Phylum Ctenophora	▪ Describe and differentiate the different phyla under the multi-cellular and tissue levels of organization.	8
8. The Triploblastic, Acoelomate Body Plan 8.1. Phylum Platyhelminthes 8.2. Phylum Nemertea 8.3. Phylum Gastrotricha	▪ Characterize the phylum Platyhelminthes, Nemertea and Gastrotricha.	10
9. The Pseudocoelomate Body Plan: Aschelminths 9.1. Phylum Rotifera 9.2. Phylum Kinorhyncha 9.3. Phylum Nematoda 9.4. Phylum Nematomorpha 9.5. Phylum Acanthocephala 9.6. Phylum Loricifera 9.7. Phylum Priapulida	▪ Identify the distinguishing features of aschelminths.	8
10. The Mollusks 10.1. Phylum Mollusca 10.1.1. Class Gastropoda 10.1.2. Class Bivalvia 10.1.3. Class Cephalopoda 10.1.4. Class Polyplacophora 10.1.5. Class Scaphopoda 10.1.6. Class Monoplacophora 10.1.7. Class Caudofoveata 10.1.8. Class Aplacophora	▪ Examine the differences and similarities of the different classes of phylum Mollusca.	8
11. Annelida: The Metameric Body Form 11.1. Phylum Annelida 11.1.1. Class Polychaeta 11.1.2. Class Oligochaeta 11.1.3. Class Hirudinea	▪ Define metamerism; ▪ Describe annelid structure and functions; ▪ Differentiate the species members of Phylum Annelida.	6
12. The Arthropods: Blueprint for Success 12.1. Phylum Arthropoda 12.1.1. Subphylum Trilobita 12.1.2. Subphylum Chelicerata	▪ Characterize arthropods belonging to the different subphyla; ▪ Enumerate representative species of arthropods.	6

12.1.3. Subphylum Crustacea		
MIDTERM EXAMINATION		**1**
13. The Hexapods and Myriapods: Terrestrial Triumphs 13.1. Subphylum Uniramia 13.1.1. Class Diplopoda 13.1.2. Class Chilopoda 13.1.3. Class Pauropoda 13.1.4. Class Symphyla 13.1.5. Class Hexapoda	▪ Differentiate the classes of species under subphylum Uniramia of Phylum Arthropoda; ▪ Give representative species of such classes.	4
14. The Echinoderms 14.1. Phylum Echinodermata 14.1.1. Class Asteroidea 14.1.2. Class Ophiuroidea 14.1.3. Class Echinoidea 14.1.4. Class Holothuroidea 14.1.5. Class Crinoidea 14.1.6. Class Concentricycloidea	▪ Characterize the classes under phylum Echinodermata; ▪ Enumerate sample species under each class.	7
15. Hemichordata and Invertebrate Chordates 15.1. Phylum Hemichordata 15.1.1. Class Enteropneusta 15.1.2. Class Pterobranchia 15.2. Phylum Chordata 15.2.1. Subphylum Urochordata 15.2.2. Subphylum Cephalochordata	▪ Describe species under phylum Hemichordata and phylum Chordata; ▪ Give examples of hemichordates and invertebrate chordates.	6
16. The Fishes: Vertebrate Success in Water 16.1. Subphylum Vertebrata 16.1.1. Agnathans 16.1.1.1. Class Myxini 16.1.1.2. Class Cephalaspidomorphi 16.1.2. Gnathostomes 16.1.2.1. Class Chondrichthyes 16.1.2.2. Class Osteichthyes	▪ Compare and contrast Agnathans and Gnathostomes; ▪ Give sample species of the different classes of fishes.	8
17. Amphibians: The First Terrestrial Vertebrates 17.1. Survey of Amphibians 17.1.1. Order Caudata 17.1.2. Order Gymnophiona 17.1.3. Order Anura (Salientia) 17.2. Amphibians in Peril	▪ Differentiate the orders of species under Class Amphibia; ▪ Describe amphibians in peril.	6
18. Reptiles: The First Amniotes 18.1. Survey of the Reptiles 18.1.1. Order Testudines 18.1.2. Order Rhyncocephalia 18.1.3. Order Squamata 18.1.4. Order Crocodilia	▪ Describe the characteristics of reptiles; ▪ Give examples of reptiles belonging in the different orders.	5
19. The Birds: The Winged Creatures 19.1. Diversity of Modern Birds	▪ Characterize a bird; ▪ Explain the diversity of modern birds.	5
20. The Mammals: The Warm-Blooded Vertebrates 20.1. Diversity of Mammals 20.2. Evolutionary Pressures	▪ Enumerate the characteristics of mammals. ▪ Elaborate the evolutionary pressures being experienced by mammals.	6
21. Form and Function of Animals 21.1. Protection and Support 21.2. Movement 21.3. Communication 21.4. Circulation and Gas Exchange 21.5. Nutrition and Digestion	▪ Differentiate the form and functions of animals. ▪ Appreciate animals as significant part of the biological world.	6

21.6. Temperature and Body Fluid Regulation 21.7. Reproduction and Development		
FINAL EXAMINATION		**1**
	TOTAL NUMBER OF HOURS	**162**

References:

- Catchillar, Gerry C. 2006. Biology: A Simplified Approach. Mandaluyong City: Echanis Press Inc.
- Hickman, Cleveland P., et al. 1988. Integrated Principles of Zoology. Quezon City: Copyright by Times Mirror/ Mosby College Publishing and Printed by JMC Press, Inc.
- Krohne, David T. 2012. General Ecology, 2nd Edition. Cengage Learning Asia Pte Ltd: Singapore.
- Miller, Kenneth R. and Levine, Joseph S. 2006. Prentice Hall Biology. Boston, Massachusetts: Pearson Education, Inc., publishing as Pearson Prentice Hall.
- Miller, Stephen A. and John P. Harley. 2001. Zoology, Fifth Edition. The McGraw-Hall Companies.
- Nowicki, Stephen. 2008. Biology. Canada: McDougal Littell, a division of Houghton Mifflin Company.
- Postlethwait, John H. and Janet L. Hopson. 2012. The World of Biology. Pasay City, Philippines: Cengage Learning Asia Pte Ltd.
- Storer, Tracy I., et al. 1979. General Zoology, Sixth Edition. Cubao, Quezon City: Philippine Copyright by McGraw – Hill Inc and Printed by Atlas Publishing Co,, Inc.
- Wikipedia.com
- Youtube.com

X. TEACHING-LEARNING APPROACH	Strategies/ Techniques	Learning resources
	1. Interactive Discussion 2. Concept Formation 3. Video Clip Presentation 4. Laboratory Method 5. Debate 6. Interview 7. Journal writing 8. Demonstration Technique 9. Hands-on Learning 10. Collaborative learning 11. Field Trip	1. Books 2. Instructor-made Workbook 3. Modules 4. Laboratory Manual 5. Electronic Sources 6. Video Clips

XI. GRADING SYSTEM

Criterion Reference (Absolute Standard)

Lecture		**60%**
▪ Term examination	40%	
▪ Quizzes	25%	
▪ Recitation/Oral/Written Reports	25%	
▪ Research Work	10%	
Laboratory		**30%**
▪ Lab Exercises	40%	
▪ Lab Exams	30%	
▪ Practical Exams	30%	
Project		**10%**
		100%

Semestral Grade:	Preliminary Period	30%
	Mid-Term Period	30%
	Final Period	40%
	Semestral Grade	100%

Transmutation Table

Numerical Value	Equivalent Percentage/ Grade
1.00	99-100
1.25	96-98
1.50	93-95
1.75	90-92
2.00	87-89
2.25	84-86
2.50	81-83

<table>
<tr><td></td><td>
<table>
<tr><td>2.75</td><td>78-80</td></tr>
<tr><td>3.00</td><td>75-77</td></tr>
<tr><td>4.00</td><td>Conditional</td></tr>
<tr><td>Inc</td><td>Incomplete</td></tr>
<tr><td>5.00</td><td>Failed</td></tr>
</table>
</td></tr>
<tr><td>XII. CLASSROOM POLICIES</td><td>1. Students shall take the three major examinations (prelim, midterm and final) on time.
2. Students are only allowed to have ten absences in a semester or s/he may be automatically be dropped in the subject. Students who are late beyond 15 minutes are considered absent.
3. Submission of course requirements shall be scheduled by the instructor before the final examination.
4. Mobile phones and other gadgets and devices are not allowed inside the classroom during the duration of class.
5. Any form of plagiarism is strictly forbidden in accomplishing a research paper. There shall be a proper document citation in every research work.
6. Any form of cheating are strongly prohibited.</td></tr>
<tr><td>XIII. CLASS SCHEDULE</td><td>TTh, 1:00-5:00 PM</td></tr>
<tr><td>XIV: CONSULTATION HOURS</td><td>F, 8:00-10:00 AM</td></tr>
<tr><td>Professor</td><td> 
Mr. DANILO V. ROGAYAN JR.
Faculty, College of Teacher Education Arts & Sciences</td></tr>
<tr><td>Student’s Name</td><td></td></tr>
<tr><td>Course & Year</td><td>BSED II Biological Science</td></tr>
</table>