



## UNIVERSITI TEKNOLOGI MARA

### BIO652: Ecosystems and Conservation

<b>Course Name (English)</b>	Ecosystems and Conservation <b>APPROVED</b>
<b>Course Code</b>	BIO652
<b>MQF Credit</b>	3
<b>Course Description</b>	This course provides the opportunity for students to comprehend the processes and dynamics of ecosystems utilizing the example of Malaysian ecosystems not only through class discussions but also through field trips. Initial discussions are related to biodiversity and ecosystem diversity. Students will learn how ecosystems function through ecosystem dynamics. At the same time, awareness and understanding of impacts to ecosystems such as short term and long impacts are addressed. The implications of ecosystem disturbance and destruction is addressed through ecosystem goods and services which relates to the importance of ecosystem conservation, sustainability and human worldviews. Teaching methods includes lectures-discussion and field trips, as well as any updated literature from within and outside of the country as per emerging threats affecting ecosystems and biodiversity.
<b>Transferable Skills</b>	Social skills and social responsibilities Values, attitudes and professionalism Problem solving and scientific reasoning
<b>Teaching Methodologies</b>	Lectures, Field Trip
<b>CLO</b>	CLO1 Describe the structure, function, dynamics and the processes that sustains ecosystems and their biodiversity CLO2 Demonstrate social responsibility in relation to anthropogenic impacts on ecosystems and their goods and services CLO3 Integrate proactive attitudes for ecosystem conservation through sustainability, human worldviews and emerging methodologies
<b>Pre-Requisite Courses</b>	No course recommendations
<b>Topics</b>	
<b>1. Introduction to Ecosystems</b> 1.1) Basic Processes in Ecosystems 1.2) Ecosystems and Biodiversity	
<b>2. Ecosystem Diversity</b> 2.1) Terrestrial Forest and Peat Swamps 2.2) Mangroves and Estuaries 2.3) Seagrass, Seaweeds and Coral Reefs	
<b>3. Ecosystem Dynamics</b> 3.1) Primary Production 3.2) Secondary Production 3.3) Biogeochemical Cycles 3.4) Biotic Linkages in Ecosystem	
<b>4. Anthropogenic Impacts on Ecosystems</b> 4.1) Ecosystem Goods and Services 4.2) Short Term Threats to Ecosystems 4.3) Long Term Threats to Ecosystems	
<b>5. Ecosystem Conservation</b> 5.1) Sustainability and Anthropogenic Worldviews 5.2) Conservation and Ecosystem Based Management	

Assessment Breakdown	%
Continuous Assessment	50.00%
Final Assessment	50.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Poster – Chapter 4 Anthropogenic impacts on ecosystems	10%	CLO2
	Case Study	Written assignments on different ecosystems in Malaysia (Chapter 2)	20%	CLO1
	Visual Assessment	Video presentation for Chapter 5 - Ecosystem Conservation	20%	CLO3

Reading List	Recommended Text	Reference Book Resources
	<ul style="list-style-type: none"> <li>• Smith, T.M &amp; Smith, R.L. 2015, <i>Elements of Ecology</i>, 9th edition Ed., Pearson [ISBN: 978032199484]</li> <li>• Charles J. Krebs, <i>Ecology</i>, Pearson [ISBN: 1292026278]</li> <li>• Wright, R.T. &amp; Dorothy, F.B. 2014, <i>Environmental Science</i>, 12th Ed Ed., Pearson [ISBN: 1292020849]</li> <li>• Ministry of Natural Resources and Environment. 2016, <i>National Policy on Biological Diversity 2016-2025. Ministry of Natural Resources and Environment (NRE)</i>. [ISBN: 789670250243]</li> </ul>	<ul style="list-style-type: none"> <li>• Agardy, T. Davis, J., Sherwood, K., Vestergaard, O. 2011, <i>Taking Steps toward Marine and Coastal Ecosystem-Based Management, An Introductory Guide</i>. United Nations Environmental Programme Ed., (UNEP) [ISBN: 978928073173]</li> <li>• Van Dyke, F. 2008, <i>Conservation Biology</i>, 2nd Ed. Ed., Springer Science &amp; Business Media [ISBN: 9781402068911]</li> <li>• Ministry of Natural Resources and Environment, <i>A Common Vision on Biodiversity. Reference Document for Planners, Decision-Makers and Practitioners. Ministry of Natural resources and Environment, Malaysia</i> [ISBN: 9834295684]</li> <li>• Ministry of Natural Resources and Environment (2008)., <i>A Common Vision on Biodiversity. Synthesis for Planners, Decision-Makers and Practitioners.</i>, Ministry of Natural resources and Environment, Malaysia. [ISBN: 9834295684]</li> </ul>
<b>Article/Paper List</b>	This Course does not have any article/paper resources	
<b>Other References</b>	This Course does not have any other resources	