

## Example form for Module Handbook ( **Đề cương tổng quát môn học** )

A **Module Handbook** or collection of module descriptions that is also available for students to consult should contain the following information about the individual modules:

Module designation	<b><i>Microbiology</i></b>
Semester(s) in which the module is taught	<i>Semester 2</i>
Person responsible for the module	<i>Assoc. Prof. Dang Vu Bich Hanh</i>
Language	<i>Vietnamese, English</i>
Relation to curriculum	<ul style="list-style-type: none"> <li>- <i>Biological processes in environmental engineering(requiried)</i></li> <li>- <i>Wastewater treatment engineering (required)</i></li> <li>- <i>Solid waste engineering (requiried)</i></li> </ul> <p><i>Names of other study programmes with which the module is shared (Environmental Engineering program; Natural Resources and Management)</i></p>
Teaching methods	<i>lecture, lab works, presentation, blended course</i>
Workload (incl. contact hours, self-study hours)	<p><i>(Estimated) Total workload:</i></p> <p><i>39 hr of lecture</i></p> <p><i>27 hr assignment</i></p> <p><i>30 lab works</i></p> <p><i>135 hrs of self study</i></p>
Credit points	<i>4</i>
Required and recommended prerequisites for joining the module	<p><i>Basic knowledge on:</i></p> <ul style="list-style-type: none"> <li>- <i>General chemistry</i></li> </ul>
Module objectives/intended learning outcomes	<ul style="list-style-type: none"> <li>- <i>Understand and identify groups in microbes kingdom and taxonomic skills.</i></li> <li>- <i>Understand biochemical reactions in intra and extracellular.</i></li> <li>- <i>Develop skills for analysis, argument and identify metabolic substances in environment</i></li> <li>- <i>Analyze and evaluate role of microbes in pollution treatment and monitoring</i></li> <li>- <i>Practical skills and knowledge opening</i></li> </ul>
Content	<ul style="list-style-type: none"> <li>- <i>Students understand a basic general knowledge of structures, habitats and characteristics of microorganism in environment; principles of microbial metabolism and microbes influences all living thing in environment and safety in microbial lab working.</i></li> <li>- <i>How to analyze and apply the biological processes in the environmental technologies and environmental management or fundamental biotechnology, as well</i></li> </ul>
Exams and assessment formats	<ul style="list-style-type: none"> <li>- <i>Class work activities/ Quizzes; Take – home written assignments; Lab work with report; Final examination in quizzes.</i></li> </ul>
Study and examination requirements	<p><i>Requirements for successfully passing the module</i></p> <p><i>The final grade in the module is composed of 30% performance on exams, 10% quizzes, 20% take-home assignments, 40% in-class participation. Students must have a final grade of 50% or higher to pass</i></p>

Reading list	<ul style="list-style-type: none"><li>- <i>Handbook of Water and Wastewater Microbiology – Duncan Mara and Nigel Horan – Academic Press – 2003</i></li><li>- <i>Principles and Practice of Disinfection, Preservation &amp; Sterilization - Russell, Hugo &amp; Ayliffe's – Black Well Publishing – 2004</i></li></ul>
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