

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 (Tên môn học)	<i>Solid and hazardous waste management</i>
Semester(s) in which the module is taught (Học kỳ giảng dạy)	1
Person responsible for the module	<i>Dr. Ngo Thi Ngoc Lan Thao</i>
Language (ngôn ngữ)	<i>Vietnamese</i>
Relation to curriculum (Các môn học liên quan)	<i>Compulsory</i>
Teaching methods (Phương pháp giảng dạy)	<i>Lecture, lesson, lab works, project.</i>
Workload (incl. contact hours, self-study hours) (Thời lượng làm việc)	<i>(Estimated) Total workload: Contact hours (please specify whether lecture, exercise, laboratory session, etc.): Private study including examination preparation, specified in hours¹: 180</i>
Credit points (số tín chỉ)	3
Required and recommended prerequisites for joining the module (những yêu cầu kiến thức trước khi học)	<i>None</i>
Module objectives/intended learning outcomes (Mục tiêu môn học, yêu cầu CDR)	<p><i>This course provides to undergraduate students of environmental technology and management major the basic knowledge on solid and hazardous waste management. Knowledge of solid waste management consist of sources, composition, quantity, and characteristic of solid waste; collection system. Knowledge of hazardous waste management consist of definition and classification of hazardous waste; sources of generation; environmental impact and health risk assessment; storage, collection and transportation of hazardous waste; hazardous waste stabilization and solidification and landfill.</i></p> <p><i>Upon completion of this course, students should</i></p> <ul style="list-style-type: none"> <i>• Student knows and understands the main rules of waste classification and principles of waste management.</i> <i>• Student knows the core concepts and methods for solid waste, waste gases and wastewater treatment.</i> <i>• Student knows and understands basic rules of waste legislation and waste auditing.</i> <i>• Student understands environmental, health and social issues related to waste management.</i> <i>• Student knows and understands the importance to design, implement and set up “clean” waste processing logics for the environment.</i> <i>• Student knows and understand the quality requirements and regulatory standards of recycling and re-use programs</i>

¹ When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Content (Nội dung)	<p><i>Generation and classification of solid waste in industrial society</i></p> <p><i>Sources, composition, quantities and properties of municipal solid waste</i></p> <p><i>Collection system of solid waste and hazardous waste</i></p> <p><i>Transfer and transport of solid waste</i></p> <p><i>Basic processing of solid waste</i></p> <p><i>Stabilisation and solidification</i></p> <p><i>Solid and hazardous wastes treatment technologies</i></p> <p><i>Practical models</i></p> <p><i>Term paper and presentation</i></p> <p><i>Laboratory</i></p>
Exams and assessment formats (Hình thức kiểm tra và thi)	<p><i>Homework: group of 2 – 3 students, at home</i></p> <p><i>Quiz: individual, opened book, in class</i></p> <p><i>Final exam: closed book, 90 min</i></p> <p><i>Experiment: report and test</i></p>
Study and examination requirements (Tỷ lệ đánh giá học tập)	<p><i>Group presentation: 30%</i></p> <p><i>Laboratory: 20%</i></p> <p><i>Final examination: 50 %</i></p>
Reading list (Tài liệu)	<p><i>[1] George Tchobanoglous, Hilary Theisen, and Samuel Vigil, Integrated solid waste management: Engineering principles and management issues, McGraw-Hill, Inc., New York, USA, 1993.</i></p> <p><i>Open resources:</i></p> <p><i>[2] William A. Worrell and P. Aarne Vesilind, Solid Waste Engineering, Cengage Learning, USA, 2nd Edition, 2012.</i></p> <p><i>[3] Michael D. LaGrega, etc., Hazardous Waste Management, McGraw-Hill, Inc., 2001.</i></p>