

Module Handbook – Environmental Toxicology and Lab Works

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)	Environmental Toxicology and Lab Works
Semester(s) in which the module is taught (Học kỳ giảng dạy)	4 th semester
Person responsible for the module	Dr. Lam Van Giang
Language (ngôn ngữ)	English; Vietnamese
Relation to curriculum (Các môn học liên quan)	Chemistry for Environmental Engineering and science
Teaching methods (Phương pháp giảng dạy)	lecture, lesson, lab works, project, seminar etc.
Workload (incl. contact hours, self-study hours) (Thời lượng làm việc)	(Estimated) Total workload: Contact hours (please specify whether lecture, exercise, laboratory session, etc.): Private study including examination preparation, specified in hours ¹ :
Credit points (số tín chỉ)	3
Required and recommended prerequisites for joining the module (những yêu cầu kiến thức trước khi học)	Chemistry for Environmental Engineering and science
Module objectives/intended learning outcomes (Mục tiêu môn học, yêu cầu CĐR)	<ul style="list-style-type: none"> - <i>Knowledge:</i> Recognise current environmental ecotoxicology problems and comprehend ecotoxicology characteristics - <i>Skills:</i> Skills of thinking and problem solving ; Experimental skills and knowledge discovery; Skill of system thinking; Personal skills and characteristics;; Skills of group working and effective communication - <i>Competences:</i> Apply knowledge to benefit society

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>Students will be supplied knowledge about toxicology agents in environment, their sources and biogeochemistry cycles, the ways they threat the eco-system and human beings. This subject also supplies the knowledge about methods of prevention and cures.</p> <p>Undergraduate students are introduced about the principles, clarifications and definitions of environmental toxicology. The subject also introduces chemical and physical agents in earth, water and air as well as the behaviors and poisoning ways of those agents in component environments and their biogeochemistry cycles.</p> <p>The subject particularly focuses on the detrimental effects of toxic elements and substances on living organisms, especially on populations and communities within defined ecosystems.</p> <p>Moreover, undergraduate students are also introduced about the accumulation processes of chemical and physical agents in the environment, the transfer pathways of those agents and their interactions with the environment, the response of living organisms on those agents.</p>
Exams and assessment formats (Hình thức kiểm tra và thi)	<ul style="list-style-type: none"> - <i>Midterm assessments (45 minutes each)</i> - <i>and one final exam (70 minutes),</i> - <i>short computer-based quizzes,</i> - <i>take-home written assignments</i> - <i>Labworks</i>
Study and examination requirements (Tỷ lệ đánh giá học tập)	<p><i>Requirements for successfully passing the module</i></p> <ul style="list-style-type: none"> - <i>the final grade in the module is composed of 70% performance on exams, 5% quizzes, 5% take-home assignments, 5% in-class participation and Labworks report 15%. Students must have a final grade of 50% or higher to pass</i>
Reading list (Tài liệu)	<p>[1] Peter Calow. Handbook of Ecotoxicology. Blakwell sciences. Inc Cambridge, 1993</p> <p>[2] Ruchirawat, M. Environmental toxicology. Vol. I, UNDP, Bangkok, 1997</p> <p>[3] Ruchirawat, M. Environmental toxicology. Vol. II, UNDP, Bangkok, 1997</p>