

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)	Microalgae: Benefit and risk to environment (EN3049)
Semester(s) in which the module is taught (Học kỳ giảng dạy)	173, 201, 202, 211
Person responsible for the module	Đào Thanh Sơn
Language (ngôn ngữ)	Vietnamese and English
Relation to curriculum (Các môn học liên quan)	Compulsory / elective / specialisation Ecology (EN1005) Names of other study programmes with which the module is shared
Teaching methods (Phương pháp giảng dạy)	Lecture, seminar, exercise, group discussion, video clip illustration, etc.
Workload (incl. contact hours, self-study hours) (Thời lượng làm việc)	(Estimated) Total workload: 91,3 units (1 unit ~ 60 min) Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 27 units for lecture (theory), 9 units for seminar during class Private study including examination preparation, specified in hours ¹ : 30 hours (2 hours per week x 15 weeks in a semester) for individual question & discussion in the office, 12 hours (1.5 working days) for exercise preparation for the whole semester, 32 hours (3 working days) for mid –term test and seminar assessment/ grading, 16 hours (2 working days) for final exam assessment/ grading, further 15 working days for material/ reference reading for updating the syllabus and lecture contents, 30 working days for experiment/ study for self enhancement on the teaching qualification (experiences and skills)
Credit points (số tín chỉ)	2
Required and recommended prerequisites for joining the module (những yêu cầu kiến thức trước khi học)	N/A
Module objectives/intended learning outcomes (Mục tiêu môn học, yêu cầu CDR)	Key question: what learning outcomes should students attain in the module After completing the course, students could (learning outcomes) - Know the basic knowledge on microalgal groups in aquatic environment and their distribution in nature - Understand the relationship between the microalgal development and environmental in water bodies - Be able to analyze and evaluate the potential benefit and risk of microalgae to aquatic environment and ecosystems - Be able to practice / answer a question based on microalgae data - Be able to present/ discuss/ group working

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>The description of the contents should clearly indicate focus areas and the level of difficulty.</i></p> <p>Introduction to the course Chapter 1: Introduction on microalgae Chapter 2: Development of microalgae and function of environmental parameters Chapter 3: Benefits from microalgae Chapter 4: Negative effects of microalgae Chapter 5: Approaches for prevention, mitigation and control the blooms of microalgae algae, and treatments on algal toxins Group presentation / report</p>
Exams and assessment formats (Hình thức kiểm tra và thi)	<p>assignment, seminar (25 min of presentation; 15 – 20 min for question/ answer): 30% mid-term test (multiple choice, 50 min): 20% final examination (essay, 50 min): 50%</p>
Study and examination requirements (Tỉ lệ đánh giá học tập)	<p><i>Requirements for successfully passing the module</i> <i>Students must have a final grade of 50% or higher to pass; the final exam must be graded of not less than 3/10.</i></p>
Reading list (Tài liệu)	<p><i>Main material</i></p> <p>Bellingier, E.G., Sigeo, D.C., 2015. Freshwater Algae - Identification and Use as Bioindicators. Wiley-Blackwell Singh, B., Baudh, K., Bux, F., 2015. Algae and environmental sustainability. Springer. 194 pp</p> <p><i>Further readings</i></p> <p>Luisa Gouveia, 2011. Microalgae as a feedstock for biofuels. Springer Chorus, I., Bartram, J., 1999. Toxic cyanobacteria in water: a guide to their health consequences, monitoring and management. E & FN Spon Graneli, E., Turner, J.T., 2006. Ecology of harmful algae. Springer Seckbach, J., 2007. Algae and cyanobacteria in extreme environment. Springer Ayhan Demirbas and M. Fatih Demirbas, 2010. Algae Energy - Algae as a new source of biodiesel. Springer Nguyễn Văn Tuyên, 2003. Đa dạng sinh học tảo trong thủy vực nội địa Việt Nam - triển vọng và thử thách. NXB Nông Nghiệp Tp Hồ Chí Minh Sournia, A., 1978. Phytoplankton manual. UNESCO, UK Graham, L.E., Wilcox, L.W., 2000. Algae. Prentice-Hall, US Avigad Vonshak, 2002. <i>Spirulina platensis</i> - Physiology, cell-biology and biotechnology. Taylor and Francis</p>