BIOL3112/2318 Biological Sciences Field Course (6 credits)

Sub-Class BIOL3112/2318 (A)

Cetacean Behaviour, Ecology and Conservation: Field Research Experience

Short Title: **Marine Mammal Field Course**

Course Status with related major/minor:
Capstone course: Major and Minor in Ecology & Biodiversity

Course Coordinator
Dr. Leszek Karczmarski
School of Biological Sciences
The Swire Institute of Marine Science
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Teachers Involved
Dr. Leszek Karczmarski (100%)

Demonstrators Involved
Post-Graduate students from the Cetacean Ecology Lab

Course Objectives
This course represents an exciting experiential learning opportunity and a capstone requirement; it offers a unique hands-on experience in field research into behavioural ecology and conservation of free-ranging cetaceans (whales, dolphins and porpoises); it provides students with a fundamental knowledge, skills, and the appreciation of what it takes to design, implement, and effectively run field studies in cetacean ecology, behaviour and conservation, and similar studies of other large and mobile marine vertebrates.

Course Contents and Topics
Field-based studies of cetaceans (dolphins and whales) have been rapidly evolving in recent years. There are many exciting new developments that allow researchers to tackle previously unexplored avenues of research. However, the primary component of cetacean studies, the direct contact with free-ranging animals out at sea, in their natural environment and on their terms remains unchanged; both challenging and fascinating. This course will expose students to various aspects of cetacean field studies, from the definition of a research question to project design, and to various stages of data collection and analyses. Students will learn a suite of research techniques, and will exercise their skills in data processing and interpretation. The emphasis will be on delphinid behavioural ecology and conservation applications; students will be guided through the scientific reasoning and methodology, and will develop an understanding how individual projects can contribute to advancing science and benefiting broader conservation management efforts. The course includes lectures, informal discussions of current research and recent discoveries, review of innovative research techniques, and extensive field component with sea-based research

surveys performed daily (weather permitting). Students will be required to write an independent report following the field course (no independent projects) and participate in a seminar given to Ecology and Biodiversity students and faculty, describing the learning outcome of the course.

Pre-requisites

BIOL3320/2622 (Biology of marine mammals) or BIOL4303/2625 (Animal behaviour) or BIOL3313/2615 (Freshwater ecology). If oversubscribed, priority will be given to students that passed BIOL3320/2622 or BIOL4303/2625. Exemption from course pre-requisite is possible, but will be considered on individual case-by-case bases; requests shall be addresses to Dr. Leszek Karczmarski via e-mail leszek@hku.hk

Course Learning Outcomes

On completion of this course, students will:

- Appreciate the complexity and logistics of field studies of large mobile marine vertebrates
- Learn the methodology used in ecological field studies of cetaceans and practical skills in data gathering and analyses
- Appreciate the conceptual framework of investigating cetacean ecology and behaviour, and develop and understanding how to put this framework into practice of collecting, processing, analysing, and using data
- Learn the value of hypothesis-driven research and the significance of formulating a well-defined scientific question; and appreciate the importance of designing field research to explicitly address the desired research questions
- Think analytically in terms of cetacean behaviour, population biology and conservation ecology, and practical applications of such studies, especially in terms of the day-to-day practice of conservation and sustainable management

Quota: **12**

Location

Bohol Sea, the Philippines

Time and Duration

12-days, including travel; right after the last exams in late-May/early-June. The exact dates will depend on the weather conditions in the Bohol Sea at the time.

Teaching and Learning Activities

Lectures: 8 contact hours
Tutorials: 12 contact hours
Field work: 38 contact hours
Interactive classroom debates: 6 contact hours
Group work/project: 8 contact hours

Assessment Method and Weighting

- Active participation, enthusiasm, engagement in interactive debates, involvement in field work (by means of continuous assessment) 35%
- Group investigation/presentation 30%
- Final assessment 35%

Course Costs

The course received a generous support from the Gallant Ho Experiential Learning Centre, HKU, which will partially cover student expenses. However, the exact amount of the course fee will have to be confirmed at a later stage as it will depend on the airfare and local expenses at the time.

Recommended Reading

Mann J., Connor R.C., Tyack P.L. & Whitehead H. (eds). Cetacean societies: Field studies of dolphins and whales (The University of Chicago Press 2000)

Boyd I.L., Bowen W.D. & Iverson S.J. (eds). Marine Mammal Ecology and Conservation: A Handbook of Techniques (Oxford University Press 2010)

HKU Marine Mammal Field Course 2012, Bohol, Philippines