THE MODULE HANDBOOK
FACULTY OF BIOLOGY

Carcinology

Module code	BID 21104IUP
Module level	3rd year of Undergraduate Program in Biology
Abbreviation, if applicable	-
Sub-heading, if applicable	-
Courses included in the module, if applicable	-
Semester/term	Odd
Module coordinator(s)	Rury Eprilurahman, S.Si., M.Sc.
Lecture(s)	1. Rury Eprilurahman, S.Si., M.Sc.
Language	English
Classification within the Curriculum	Elective course
Teaching format/class hours per week during the semester	This course is organized into one class and planned to have 14 teaching weeks and 2 weeks of examination.
Workload	Estimated working hour: 10,5 hours/week.
Credit points	2-1 credits
Requirements	Plant Systematics (BIB 21001IUP)
Learning goals/ competencies	**1. Knowledge and understanding** a. Understanding basic concept, principal, theories, and identification of Crustaceans. b. Understanding facts, concepts, principal and theory of Crustacean distribution in the field of biological sciences. c. Knowing and understanding relationship between carcinology and other biological sciences. d. Improve the understanding of the important value of Crustaceans in the use of fauna resources e. Shrimp and other crustaceans cultivation system with the sustainable concept. **2. Ability/intellectual skill** a. Using and build the identification keys of crustaceans (shrimps, prawns and crabs) correctly. b. Understanding the basic theory and laboratory tools/equipments use to support laboratory work and research. c. Collecting and observation on any carcinological research data.

	d. Integrating and evaluating information and data from many resources (books, journals, electronic resources, etc.). **3. Practical skill** a. Understanding the diagnostic characters of crustaceans b. Planning and doing scientific research in the field of carcinology. c. Planning and doing crustaceans cultivation d. Analyzing experimental results and determines its validity. e. Making and presenting technical report scientifically. **4. Managerial and transferable skill** a. Conducting communication effectively, either written, oral or with images. b. Applying and integrating biology into other science branch. **5. Attitude** a. Collecting samples with consideration of the ecosystem sustainability. b. Managing the crustaceans' cultivation with the principle of sustainability.
Content	Carcinology is one of the animal systematic branch which studying Crustaceans. The course provided for students who need more information about crustaceans systematics, biology and cultivations. This study comprise of characteristics, phylogeny, classification, taxonomy, anatomy, reproduction, physiology and biogeography of crustaceans. Carcinology can be used to find the solution for any taxonomy and cultivation questions, continuous benefit/ use and development of crustaceans as national fisheries comodity. This course focused on theory and practical skills on identification, important value of the species or taxa, sampling methods and several research based learning will be provided.
Study/exam achievements	**1. Theory** a. Midterm: 40% b. Final examination: 40% c. Assignment and attandance: 15% **2. Laboratory work** a. Pretest: 30% b. Weekly reports: 30% c. Specific reports: 40%
Forms of media	White board, notebook, specimen, LCD

Literature	1. Holthuis, L.B. 1992. Marine Lobster of The World, FAO. Fisheries Synopsis, No 125, Vol 13. Food and Agriculture Organosation of The United Nation, Rome. 2. Robert D. Barnes, 1974. Invertebrate Biology. Third Editions. W.B. Saunders Co. Toronto, London, Philadelphia. 3. Talbot H. Waterman. 1961. The Physiology of Crustacea. Vol I, Sense organ, intregration, and Behaviour. Academis Press, New York and London 4. Talbot H. Waterman. 1961. The Physiology of Crustacea. Vol II, Sense organ, intregration, and Behaviour. Academis Press, New York and London. 5. Trijoko. 1993. Keanekaragaman jenid *Panulirus* di Perairan Pananjung Pangandaran dan fekunditasnya. Fakultas Biologi UGM. 6. Trijoko. 1994. Seks rasio dan masa bertelur udang karang (*Panulirus* spp.) di perairan Pangandaran. Fakultas Biologi UGM. 7. Trijoko, 1998. Hubungan ukuran induk udang barong (*Panulirus homarus* L.) dengan kualitas telur dan daya hidup larva. Jurnal Biologi. Vol 2 No 08. Fakultas Biologi UGM. 8. Trijoko. 2002. Pertumbuhan larva udang barong (*Panulirus homarus* L.) dengan pakan *Artemian salina* Jurnal Perikanan Indonesia. Fakultas Perikanan dan Kelautan, IPB. Bogor. 9. Trijoko. 2006. Keanekaragaman jenis udang *Macrobrachium* spp. Di Daerah Aliran Sungai Opak DIY. Seminar Nasional MTFI. Yogyakarta. 10. Trijoko dan Diana U.W. Pasaribu. 2004. Inventarisasi Zooplankton untuk pakan alami larva udang karang (*Panulirus homarus* L.) di Teluk Wedi Ombo Gunung Kidul, Yogyakarta. Jurnal Perikanan. Jurusan Perikanan Faklultas Pertanian, UGM. 11. Trijoko dan Samanankara. 2000. Pengaruh cahaya terhadap pertumbuhan udang barong (*Panulirus homarus* L.). Jurnal Ilmu-ilmu Perikanan dan Perairan Indonesia. VolI, No 2. Fakultas dan Perikanan IPB. Bogor. 12. Trijoko, Triyanto dan A. Budiantoro. 2004. Pertumbuhan udang karang hijau pasir (*Panulirus homarus* L.) dengan pakan alami pokok dan tambahan. Simposium Nasional. “Perkembangan & Inovasi dan teknologi Akuakultur”, Forum Temu dan Kontak Bisnis Akuakultur Indonesia, Konggres I Masyarakat Akuakultur Indonesia (MAI). Semarang. 13. Trijoko, Triyanto, S. Helmiati dan N. Untari. 2004. Pemijahan udang karang (*Panulirus homarus* L.) untuk pengadaan juvenil bagi konservasi sumberdaya hayati. Simposium Nasional. “Perkembangan & Inovasi dan teknologi Akuakultur”, Forum Temu dan Kontak Bisnis

Akuakultur Indonesia, Konggres I Masyarakat Akuakultur Indonesia (MAI). Semarang.
14. Van Olst, J.S. James M. Carlberg and John T. Hughes. 1980. Aquaculture in the Biology and Management of Lobster. American Press New York. Vol I and II.
15. Xu, XI, Wuenjian Ji, JD. Castell. 1994. Essentia Fatty Acid requirement of the chinese parwn, *Penaeus chinensis.* Aquaculture. 127: 29-40