UNIVERSITAS NEGERI YOGYAKARTA
BIOLOGY EDUCATION
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Bachelor of Education in Biology MODULE HANDBOOK

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| Module name: | Laboratory Work in Marine Biology |
| Module level,if applicable: | Undergraduate |
| Code: | BIO 6119 |
| Sub-heading,if applicable: | - |
| Classes,if applicable: | - |
| Semester: | Even |
| Module coordinator: | Triatmanto, M.Si |
| Lecturer(s): | |
| Language: | Bahasa Indonesia |
| Classification within the curriculum: | Compulsory subject |
| Teaching format / class hours per week during the semester: | 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual studyper week |
| Workload: | Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks. |
| Creditpoints: | 1 SKS (1 ECTS) |
| Prerequisites course(s): | Ecology |
| Perogram Learning Outcomes: | 4. Master In Basic Biology and the Knowledge Relevant to Mathematics and Natural Sciences.<br>7. Able to do laboratory work and field studies independently |
| Course Outcomes | After taking this course, the students have ability to:<br>CO1. Identify the themes and object Lab work in Marine Biology<br>CO2. Understand and apllied of BSCS scheme for lab work Marine Biology<br>CO3. Develop a field study design in a coastal ecosystem<br>CO4. Organizes field activities on the sand beach, identifies and reports the results of its activities in the form of academic reports<br>CO5. Organizes field activities on the mud beach and mangroves ecosystem, identifies and reports the results of its activities in the form of academic reports |

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| | CO6. Organizes field activities on the estuarine ecosystem, identifies and reports the results of its activities in the form of academic reports<br>CO7. Organizes field activities on the sea grass ecosystem, identifies and reports the results of its activities in the form of academic reports<br>CO8. Organizes field activities on the coral reef ecosystem, identifies and reports the results of its activities in the form of academic reports<br>CO9. Compiling book and video field study reports<br>CO10. Communicate the result of field study reports |
| Content: | This course develops scientific and analytical skills in the estuarine and marine ecology ecosystems through discussion, observation, and presentation |
| Study/exam achievements: | The final mark will be weight as follow: |

| No | CO | Assessment Object | Assessment Technique | Weight |
|---|---|---|---|---|
| 1 | 1-8 | Attitudes , knolwedge | Survey, test, | 15% |
| 2 | 3 to 8 | Attitudes , knolwedge, and skills | Survey, test, portofolio | 70% |
| 3 | 3 to 10 | Scientific and communicating skills | Observe rubrics and manuals, portofolio | 15% |
| | | | Total | 100% |

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| Forms of media: | Real objects, model, multimedia |
| Reference: | A. Amran, M.A. and R.A. Rappe. 2009. *Estimation of Seagrass Coverage by Depth Invariant Indices on Quickbird Imagery*. Research Report DIPA Biotrop 2009<br><br>B. Arifin, dkk, 2004. Studi Kondisi dan Potensi Ekosistem Padang Lamun Sebagai Daerah Asuhan Berbagai Jenis Biota Laut Di Perairan Pulau Barranglompo, *Torani*, Vol. 14(5) Edisi Khusus SP4, Desember 2004: 241-250 ISSN: 0853-4489.<br><br>C. Bengen,D.G.2001. *Sinopsis Ekosistem dan Sumber Daya Alam Pesisir*. Pusat Kajian Sumberdaya Pesisir dan Lautan, Institut Pertanian Bogor<br><br>D. Bougis, P. 1976. *Plankton Ecology*. American Elsevier Publishing Campany, INC., New York<br><br>E. Brouns, J.J.W.M. dan F.M.L. Heijs 1991. *Seagrass ecosystem in the Tropical West Pacific. p. 371-387.* Dalam: Mathieson*, A.C. dan P.H.* Nienhuis(Eds.) *Ecosystem of* |

*the world 24: Intertidal and littoral ecosystem*. Elsevier. Amsterdam. xiii + 564 pp.

F. Brower *et al,* 1990 Brower, J., J. Zar, C.V. Ende, K. Kane, 1990. *Field and laboratory methods for general ecology. Edisi ke-3*. America: Wm. C. Brown Publisher

G. Edmonsons, W.T., 1966. *Fresh Water Biology*. 2nd ed. John Wiley & Sons Inc, New York

H. English, et. al,. 1994.*SurveyManual for Tropical Marine Resources*. AustralianInstituteof Marine Science. Townsville. Australia

I. Hutabarat, Sahala dan Stewart M. Evans. 1986.*Pengantar Oseanografi*. Jakarta: Universitas Indonesia Press),cetIII.

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T. Tuwo, Ambo. 2011. *Pengelolaan Ekowisata Pesisir dan Laut*. Surabaya: Brilian Internasional

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| | U. WilkinsonCR. 1992.*Coral Reefs of The World are Facing Widespread Devastation: Can We Prevent This Through Sustainable Management* |

PLO and CO mapping

| | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 | PLO9 | PLO10 | PLO11 | PLO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | | | | ✓ | | | | | | | | |
| CO2 | | | | ✓ | | | | | | | | |
| CO3 | | | | | | | ✓ | | | | | |
| CO4 | | | | | | | ✓ | | | | | |
| CO5 | | | | | | | ✓ | | | | | |
| CO6 | | | | | | | ✓ | | | | | |
| CO7 | | | | | | | ✓ | | | | | |
| CO8 | | | | | | | ✓ | | | | | |
| CO9 | | | | | | | ✓ | | | | | |
| CO10 | | | | | | | ✓ | | | | | |