UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF BIOLOGY EDUCATION
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Bachelor of Science in Biology **MODULE HANDBOOK**

Module name:	Laboratory Work in Reproduction Technology
Module level, if applicable:	Undergraduate
Code:	BIM6149
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	-
Module coordinator:	Suhandoyo, MS
Lecturer(s):	Suhandoyo, MS. , Ciptono, MSi.
Language:	Indonesian
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	170 minutes individual study per week
Work load:	Total workload is 170 minutes individual study per week for 16 weeks.
Credit points:	1 SKS (1,64 ECTS)
Prerequisites course(s):	Animal Reproduction and Embryology
Program Learning Outcomes:	PLO.4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences PLO.6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields PLO.9. Being able to work and create jobs/being an entrepreneur in the field of Biology PLO.11. Possessing scientific skills to support the ability to speak in local, national, and international forums
Course Outcomes	After taking this course, the students have ability to: CO.1. able to apply the use of hormones in aquatic animal reproduction technology, artificial insemination, embryotransfer. CO.2. Understanding the application of reproduction technology in daily life including reproduction technology in aquatic

<table>
<tr><td></td><td>animals, artificial insemination, embryotransfer, and reproductive bioethics.
CO.3. Able to carry out reproduction biotechnology applications to improve the reproduction efficiency of aquatic animals and pou</td></tr>
<tr><td>Content:</td><td>This course mainly develops skills (MKK) in the field of animal reproduction technology including reproductive technology in aquatic animals, artificial insemination, embryotransfer, and reproductive bioethics</td></tr>
<tr><td>Study/examachievements:</td><td>The final mark will be weight as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1 to CO3</td><td>Observed attitudes , knolwedge, and skills</td><td>Survey, test, rubrics and manuals</td><td>100%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
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</td></tr>
<tr><td>Forms of media:</td><td>Real objects, model, multimedia, LCD, computere</td></tr>
<tr><td>Reference:</td><td>

1. Brackett, BG; Seidel JR, GE and Seidel, SM. 1981. *New Technologies In Animal Breeding*. Academic Press, New York.
2. Betteridge, KJ (Ed). 1977. *Embryotransfer in Farm Animals. A Riview of Techniques and Applications*. Agriculture, Canada.
3. Brown, TA. 1986. *Genes Cloning, an Introduction*. Van Nostrand Reinhold (UK) Co. Ltd. England.
4. D. Chauduri, H. 1976. *Journal of Fisheries Research Board of Canada*. Use of Hormones in Induced Spawning of Carps. Vol. 33 No. 4, Pt.2.
5. E. Croocks, R and Baur, K. 1983. *Our Sexuality*. Second Edition. The Benyamin / Cummings Publishing Company, Inc; California.
6. F. Hafez, ESE. 1970. *Reproduction and Breeding Techniques for Laboratory Animals*. Lea & Febiger, Philadelphia.
7. Hafez, ESE. 1980. *Reproduction in Farm Animals*. Lea and Febiger, Philadelphia.
8. H. Hoar, WS; Randall, DJ and Donaldson, EM (Eds). 1983. *Fish Physiology*. Vol. IX. Reproduction, Part B : Behavior and Fertility Control. Academic Press, Inc. Toronto.
9. Muir, JF and Robert, RJ. 1985. *Recent Advances in Aquaculture*. Vol. 2. Westview Press, Boulder. Colorado.
10. J. Shelton, JN; Tromson, AO; Moore, NW and James, JW (Eds). 1982. *Embryotransfer in Cattle, Sheep and Goats, Papers of A Symphosium held at Canberra, Australia, May 1981*. Union Offset Company Pty. Ltd; 20 Pirie Street, Fyshwick, ACT.
11. K. Susanto, H. 1992. *Budidaya Kodok Unggul*. Penebar Swadaya, Jakarta.
12. L. Toelihere, MR. 1981. *Inseminasi Buatan pada Ternak*. Penerbit Angkasa, Bandung.

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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				✓							
CO2				✓		v			v		v
CO3				✓		v			v		v