



**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:	Reproduction Technology
Module level, if applicable:	Undergraduate
Code:	BIM6248
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	Even
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:	100 minutes lectures, 120 minutes structured activities, and 120 minutes individual studyper week
Work load:	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.
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	Animal Reproduction and Embryology
Program Learning Outcomes:	<p>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</p> <p>PLO.6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields</p> <p>PLO.9. Being able to work and create jobs/being an entrepreneur in the field of Biology</p> <p>PLO.11. Possessing scientific skills to support the ability to speak in local, national, and international forums</p>
Course Outcomes	<p>After taking this course, the students have ability to:</p> <p>CO.1. Describe the implementation of animal reproduction technology applications including reproduction technology in aquatic animals, artificial insemination, embryo transfer, in vitro fertilization, genetic cloning and reproductive</p>

	<p>bioethics.</p> <p>CO.2. Understanding the application of reproductive technology in daily life includes reproductive technology in aquatic animals, artificial insemination, embryo transfer, in vitro fertilization, genetic cloning and reproductive bioethics.</p> <p>CO.3. Analyzing the application of reproductive technology in daily life includes reproductive technology in aquatic animals, artificial insemination, embryo transfer, in vitro fertilization, genetic cloning and reproductive bioethics.</p> <p>CO.4. Able to carry out reproductive biotechnology applications to improve the reproductive efficiency of aquatic animal</p>															
Content:	This course mainly develops science and skills (MKK) in animal reproduction technology including reproduction technology in aquatic animals, artificial insemination, embryo transfer, in vitro fertilization, genetic cloning and reproductive bioethics.															
Study/examachievements:	<p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1 to CO4</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> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1 to CO4	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%	Total				100%
No	CO	Assessment Object	Assessment Technique	Weight												
1	CO1 to CO4	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%												
Total				100%												
Forms of media:	Real objects, model, multimedia, LCD, computer															
Reference:	<ol style="list-style-type: none"> <li>1. Brackett, BG; Seidel JR, GE and Seidel, SM. 1981. <i>New Technologies In Animal Breeding</i>. Academic Press, New York.</li> <li>2. Betteridge, KJ (Ed). 1977. <i>Embryotransfer in Farm Animals. A Riview of Techniques and Applications</i>. Agriculture, Canada.</li> <li>3. Brown, TA. 1986. <i>Genes Cloning, an Introduction</i>. Van Nostrand Reinhold (UK) Co. Ltd. England.</li> <li>4. D. Chauduri, H. 1976. <i>Journal of Fisheries Research Board of Canada</i>. Use of Hormones in Induced Spawning of Carps. Vol. 33 No. 4, Pt.2.</li> <li>5. E. Croocks, R and Baur, K. 1983. <i>Our Sexuality</i>. Second Edition. The Benyamin / Cummings Publishing Company, Inc; California.</li> <li>6. F. Hafez, ESE. 1970. <i>Reproduction and Breeding Techniques for Laboratory Animals</i>. Lea &amp; Febiger, Philadelphia.</li> <li>7. Hafez, ESE. 1980. <i>Reproduction in Farm Animals</i>. Lea and Febiger, Philadelphia.</li> <li>8. H. Hoar, WS; Randall, DJ and Donaldson, EM (Eds). 1983. <i>Fish Physiology</i>. Vol. IX. Reproduction, Part B : Behavior and Fertility Control. Academic Press, Inc. Toronto.</li> <li>9. Muir, JF and Robert, RJ. 1985. <i>Recent Advances in Aquaculture</i>. Vol. 2. Westview Press, Boulder. Colorado.</li> <li>10.J. Shelton, JN; Tromson, AO; Moore, NW and James, JW (Eds). 1982. <i>Embryotransfer in Cattle, Sheep and Goats, Papers of A Symposium held at Canberra, Australia, May 1981</i>. Union Offset Company Pty. Ltd; 20 Pirie Street, Fyshwick, ACT.</li> <li>11.K. Susanto, H. 1992. <i>Budidaya Kodok Unggul</i>. Penebar Swadaya,</li> </ol>															

	<p>Jakarta.  12.L. Toelihere, MR. 1981. <i>Inseminasi Buatan pada Ternak</i>. Penerbit  Angkasa, Bandung.</p>
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**PLO and CO mapping**

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				✓							
CO2				✓							
CO3				✓							
CO4				✓		v			v		v