# Module Descriptions

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| Module designation | Biotechnology |
| Course Code | 8420502062 |
| Semester/Term | 4th semester/year 2 |
| Person responsible for the module | Dr. Nur Ducha, S.Si M.Si<br>Dr. Nurul Jadid Mubarakati, S.Si., M.Si.<br>Fitriari Izzatunnisa Muhaimin, B.Sc., M.Sc.<br>Prof. Dr. Isnawati, M.Si.<br>Sisca Desi Prastyaningtias, S.Si., M.Si. |
| Language | *Bahasa Indonesia* |
| Relation to curriculum | Compulsory |
| Teaching methods | Lecture |
| Workload | Contact hour: 2 x 50 minutes lectures<br>2 x 60 minutes structured activity,<br>2 x 60 minutes individual activity, 15 weeks per semester,<br>90 total hours per semester ~ 3.18 ECTS** |
| Credit Point | 2 CU (3.18 ECTS) |
| Required and recommended prerequisites for joining the module | - |
| Module Objectives/intended learning outcomes | 1. Able to demonstrate knowledge of biology at the molecular, cellular, and organismal levels and their interactions with the environment.<br>2. Able to demonstrate the ability to apply biological concepts and environmental issues with relevant technology in natural resource management. |
| Content | This course discusses the animal biotechnology scope, microorganism biotechnology, plant biotechnology and the biotechnology utilization in various fields of life through discussions, presentations and project assignments to plan and carry out some biotechnological practices as an implementation of biotechnology ecopreneurship-based concepts, as well as analyzing and developing current issues of microbial, plant and animal biotechnology for the application of the basic skills of knowledge and learning in the 21st century. |

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<td>Study and examination requirements and forms of examination</td>
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Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade.<br><br>
Students are eligible for the final semester test if they have at least 75% attendance in class.<br><br>
The final grade (NA) is calculated based on the following ratio:
<table>
<tr><th>Assessment Components</th><th>Percentage of contribution</th></tr>
<tr><td>Participation</td><td>20%</td></tr>
<tr><td>Assignment</td><td>30%</td></tr>
<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
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Grade Conversion of 0-100 scale into 0-4 scale is set as below:
<table>
<tr><th>Letter</th><th>Number</th><th>Grade interval</th></tr>
<tr><td>A</td><td>4.00</td><td>85 ≤ A ≤ 100</td></tr>
<tr><td>A-</td><td>3.75</td><td>80 ≤ A- <85</td></tr>
<tr><td>B+</td><td>3.50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3.00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2.75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2.50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2.00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1.00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0.00</td><td>0 ≤ E < 40</td></tr>
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<td>Reading List</td>
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1. Abbas. B. 2011. *Prinsip Dasar Teknik Kultur Jaringan*. Alfabeta, Bandung.
2. Anonim. 2018. *AI* Technique in *Cattle*. Select Reproductive Solution. www.selectsires.com
3. Barlina, *R*indengan dan H. Novarina. 2004. *Virgin Coconut Oil. Pembuatan dan Pemanfaatannya*. PT. Penebar Swadaya

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| | 4. Dewi, et al. 2007. Regenerasi Tanaman pada Kultur Antera Padi: Pengaruh Persilangan dan Aplikasi Putresin. *Buletin Agronomi* (35) (2) 68-74.<br>5. Ducha N., Susilawati T., Aulanni'am, Wahyuningsih S. 2013. Motilitas dan Viabilitas Spermatozoa Sapi Limousin Selama Penyimpanan Pada Refrigerator Dalam Pengencer CEP-2 dengan Suplementasi Kuning Telur. *Jurnal Kedokteran Hewan ISSN: 1978-225X.*Diakses melalui http://google.co.id pada tanggal 21 oktober 2015.<br>6. Ducha Nur, Susilawati T, Aulanni'am, Wahyuningsih S, Pangestu M. 2012**.** Ultrastructure and Fertilizing Ability of Limousin Bull Sperm After Storage in CEP-2 Extender with and without Egg Yolk. *International Journal in Pakistan Journal of Biological Science*. 15 (20).<br>7. Ducha Nur, Ratnasari Evie, Isnawati. 2018. *Bioteknologi*. Buku Ajar Mahasiswa. Unesa University Press. Surabaya.<br>8. Foote R.H. 2002. The History of Artificial Insemination : Selected Notes and Notables. *J. Am Soc Amin Sci* . 1 – 10.<br>9. Gordon Ian. 2004. *Reproductive Technology in Farm Animal*. CABI Publishing. London.<br>10. Smith J.F, 2009. *Biotechnology.* New York: Cambridge University Press.<br>11. Yuwono, T. 2008. *Bioteknologi Pertanian*. Gadjah Mada University Press: Yogyakarta. |