MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
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Master Program of Science Education **Module Handbook**

Module Name :	*Kajian Sains IV/ Study of Science IV*)*
Module level :	*Master Program of Science Education*
Course Code :	*8410103221*
Abbreviation, if applicable:	*-*
Courses included in the module, if applicable:	*Not Applicable*
Semester/Term	*1st /Second Year*
Module coordinator(s)	*Prof. Dr. Rudiana A, M.Pd.*
Lecturer(s):	*Prof. Dr. Rudiana A, M.Pd.* *Dr. Sunu Kuntjoro, M.Si.*
Language:	*Indonesian Language*
Classification within the curriculum:	*Compulsory/ ~~Elective~~*
Teaching format/class hours per week during the semester:	*3 contact hours of lectures (Indonesia credit semester or CU*)*
Workload :	*3 x 50 minutes lectures, 3 x 90 minutes structured activity, 3 x 100 minutes individual activity, 14 weeks per semester, 168 total hours per semester ~ 6.72 ECTS***
Credit Point:	*3 CU (6.72 ECTS)*
Requirements:	
Learning goals/competencies:	**Knowledge (KNO-2)** *CLO-1* *mastering theories and application theories in the field of bioengineering through the use of technology information;* *CLO-2* *Mastering knowledge and technology a flow of thought and skills to make recommendations in the application of bioengineering to produce products;* **Competency (COM-3)** *CLO-3* *Have the ability to formulate ideas, thoughts and arguments in communicating ideas to the community* *CLO-4* *Creating objective attitude and pay attention to ethics in applying bioengineering results the original findings of others .*

<table>
<tr><td>Content</td><td>This course provide the concept of biotechnology, its processes, and products as well as radioactive involvement in biotechnology in everyday life and industry and its application to solve problems in the health and environmental fields through an interdisciplinary approach.</td></tr>
<tr><td>Attribute Soft skill:</td><td>Scientific report, public speaking, and team work</td></tr>
<tr><td>Study/exam achievements:</td><td>Students are considered to be competent and pass if at least get 70. Final score is calculated as follows: 20% Participation + 30% Assignment + 20% Middle Exam (UTS) + 30% Final Exam (UAS)
Final index is defined as follow:
<table>
<tr><th>Index</th><th>Converted Score</th><th>Score Range</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>
</table></td></tr>
<tr><td>Learning Methods :</td><td>Case Method, Discussion, and Article Review</td></tr>
<tr><td>Form of Media:</td><td>Power Point slides, e-book file, and multimedia.</td></tr>
<tr><td>Literature (primary references):</td><td>1. Chandrashekara, K.N. and Yakkaldevi, A. (2015). Basic concept of biothecnology. Laxmi Book Publication
2. Smith, J.E.(2009). Biotechnology. Cambridge
3. Russel, P.J (2006). Genetic: a moleculer approach. Pearson
4. Appling, D.R., Anthony-Cahill, S.J. Mathew, C.K. (2016). Biochemistry: Concepts and Connections. Pearson
5. Eko, H, 2021, Analisis Literasi Perubahan Iklim dan Kesadaran Iklim (Climate Awareness) Bagi Mahasiswa Calon Guru IPA di Indonesia, dalam Laporan Penelitian dan Pengabdian Masyarakat.</td></tr>
<tr><td rowspan="3">Notes:</td><td>*1 CU in learning process = three periods consist of: (a) scheduled instruction in a classroom (50 minutes); (b) structured activity (90 minutes); and (c) individual activity (100 minutes) according to according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</td></tr>
<tr><td>**1 CU = 2.24 ECTS according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</td></tr>
<tr><td>*Total ECTS = (total hours workload/ 60 min) / 25 hours
Each ECTS is equals with 25 hours</td></tr>
<tr><td>Last Amendment</td><td>5 January 2023</td></tr>
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