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FACULTY OF SCIENCE AND TECHNOLOGY
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**Undergraduate Programme in Biology**

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**MODULE HANDBOOK**

| | |
|---|---|
| Module Name | Bioproducts and Entrepreneurship |
| Module level, if applicable | Bachelor |
| Code, if applicable | BIO414020 |
| Subtitle, if applicable | - |
| Courses, if applicable | |
| Semester(s) in which the module is taught | 4th (fourth) |
| Person responsible for the module | Ardyan Pramudya Kurniawan, M.Sc |
| Lecturer(s) | Ardyan Pramudya Kurniawan, M.Sc<br>Agessty Ika Nurlita, M.Si |
| Language | Indonesia |
| Relation to curriculum | Compulsory course in the second year (4th semester) Bachelor Degree |
| Type of teaching, contact hours | 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week. |
| Workload | Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes self study per week, in total is 16 weeks per semester, including mid exam and final exam |
| Credit points | 3 credits (4,5 ECTS) |
| Requirements according to the examination regulations | Minimum attendance 80% |
| Recommended prerequisites | No prerequisites stated on |
| Module objectives/intended learning outcomes | After completing this course, the students: |

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| CO 1. | Explain the urgency and the scope of bioproducts |
| CO 2. | Analyze source of bioproducts |
| CO 3. | Analyze process of bioproducts |
| CO 4. | Explain concept of entrepreneurship and motivation to be entrepreneur |
| CO 5. | Understand about step of development entrepreneurship |
| CO 6. | Explains how to start a business and the feasibility of this type of business |
| CO 7. | Explains personal financial management and human resources in business |
| CO 8. | Analyze the importance of business brands and logos |
| CO 9. | Prepare a business plan |

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| Content | 1. Urgency and scope of bioproducts<br>2. Bioproducts from plants, animals, microbes<br>3. Processing to produce bioproducts<br>4. HACCP and HAS<br>5. Bioproducts in various fields |

<table>
<tr><td></td><td>6. The urgency and scope of entrepreneurship and the journey of an entrepreneur<br>7. Entrepreneurship development<br>8. Stages of starting a business<br>9. Business feasibility (opportunities and types of business)<br>10. Personal and business financial management<br>11. HR management in entrepreneurship<br>12. Business Ethics<br>13. Business brands and logos<br>14. Business plan</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>The final mark will be weighted as follows:
<table>
<tr><th>NO</th><th>Assessment methods (components, activities)</th><th>Weight (percentage)</th></tr>
<tr><td>1</td><td>Final Examination</td><td>40%</td></tr>
<tr><td>2</td><td>Mid-Term Examination</td><td>35%</td></tr>
<tr><td>3</td><td>Class Activities : Quiz, Homework, etc.</td><td>25%</td></tr>
</table>
The final assessment is expressed in the form of a letter value converted from a number value with the following categories:
<table>
<tr><th>NO</th><th>Number Value</th><th>Letter Value</th><th>NO</th><th>Number Value</th><th>Letter Value</th></tr>
<tr><td>1</td><td>≥ 95</td><td>A</td><td>7</td><td>65-69.99</td><td>B/C</td></tr>
<tr><td>2</td><td>90-94.99</td><td>A-</td><td>8</td><td>60-64.99</td><td>C+</td></tr>
<tr><td>3</td><td>85-89.99</td><td>A/B</td><td>9</td><td>55-59.99</td><td>C</td></tr>
<tr><td>4</td><td>80-84.99</td><td>B+</td><td>10</td><td>50-54.99</td><td>C-</td></tr>
<tr><td>5</td><td>75-79.99</td><td>B</td><td>11</td><td>55-34.99</td><td>D</td></tr>
<tr><td>6</td><td>70-74.99</td><td>B-</td><td>12</td><td><35</td><td>E</td></tr>
</table></td></tr>
<tr><td>Media employed</td><td>White-board, Lcd Projector, e-learning (https://daring.uin-suka.ac.id/)</td></tr>
<tr><td>Reading list</td><td>1. Gonzales-Fernandez, C., Munoz, R. 2017. Microalgae Based Biofuels and Bioproducts. Woodhead Publishing. United Kingdom.<br>2. Alexopoulou, E. 2018. Perennial Grasses for Bioenergy and Bioproducts. Academic Press. United Kingdom.<br>3. Chen, G., Weselake, R.J., Singer, S.D. 2018. Plant Bioproduct. Springer. Newyork.<br>4. Meredith, G.G., Nelson R. E., Neck P.A. 1995. Kewirausahaan : Teori dan Praktik. Penerjemah Andec Asparsayogi. Lembaga PPM bekerja sama dengan PT. Pustaka Binaman Pressindo. Jakarta.<br>5. Zimmerer T.W. Scarborough N.M. 2002. Pengantar Kewirausahaan dan Manajemen Bisnis Kecil. Penerjemah Yanto Sidik Puatiknyo dan Edina Tjahyaningsih Tarmidzi. Prenhallindo. Jakarta.<br>6. Lambing P.A. & Kuehl C.R. 2003. Entrepreneurship. Third Edition. Prentice Hall. New Jersey.<br>7. Soemanto, W. 1993. Sekuncup Ide Operasional Pendidikan Wiraswasta. Bumi Aksara. Jakarta.</td></tr>
</table>

8. Morris M.J. 1996. Kiat Sukses Mengembangkan Usaha Kecil. Penerjemah Gatot Saksono. Penerbit Arcan. Jakarta.
9. Hisrisck R.D., Refers M.P. 2002. Entrepreneurship.International Edition. McGraw Hill Higher Education. Singapore
10. Priya AK, Alagumalai A, Balaji D, Song H. 2023. Bio-Based Agricultural Products: A Sustainable Alternative to Agrochemicals Promoting A Circular Economy. *Royal Society for Chemistry*, 1: 746-762. DOI: 10.1039/D3SU00075C
11. Asshokumar V, et al. 2022. Advanced technologies on the sustainable approaches for conversion of organic waste to valuable bioproducts: Emerging circular bioeconomy perspective. *Fuel*, 324. https://doi.org/10.1016/j.fuel.2022.124313
12. Bala S, et al. 2023. Transformation of Agro Waste into Value-Added Bioproducts and Bioactive Compounds: Micro/Nano Formulations and Application in the Agri Food-Pharma Sector. *Bioengineering,* 10: 152-169. **https://doi.org/10.3390/bioengineering10020152**

**PLO and CO Mapping**

| | PLO 1 | PLO 2 | PLO 3 | PLO 4 | PLO 5 | PLO 6 | PLO 7 | PLO 8 | PLO 9 | PLO 10 | PLO 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO 1** | | √ | | | | | | | | | |
| **CO 2** | | √ | | | | | | | | | |
| **CO 3** | | √ | | | | | | | | | |
| **CO 4** | | √ | | | | | | | | | |
| **CO 5** | | √ | | | | | | | | | |
| **CO 6** | | √ | √ | | | | | | | | |
| **CO 7** | | | √ | | | √ | | | | | |
| **CO 8** | | | √ | | | √ | | | | | |
| **CO 9** | | | | | | √ | | | | | |