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| **Bachelor of Science in Biology** | **MODULE HANDBOOK** |

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| Module name: | Teknologi Pakan Alami |
| Module level,ifapplicable: | Undergraduate |
| Code: | BIM6297 |
| Sub-heading,ifapplicable: | - |
| Classes,ifapplicable: | - |
| Semester: | Genap |
| Module coordinator: | Drs. Sudarsono, M.Si |
| Lecturer(s): | Drs. Sudarsono, M.Si |
| Language: | Bahasa Indonesia |
| Classification within the curriculum: | Elective Course |
| Teaching format / class hours per weekduring the semester: | 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week |
| Workload: | Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per weekfor 16 weeks. |
| Creditpoints: | 2 SKS (3 ECTS) |
| Prerequisites course(s): | - |
| Programme Learning Outcomes | (PLO 3) Taat hukum dan disiplin dalam kehidupan bermasyarat dan bernegara dengan menginternalisasi nilai, norma dan etika akademik.  (PLO 4) Menguasai struktur ilmu biologi secara mendalam untuk menyelesaikan masalah yang saling kait mengkait dalam bidang biologi dalam menguasai ilmu lainnya.  (PLO 6) Adaptif, kreatif dan inovatif dalam menerapkan ilmu biologi dan ilmu terait.  (PLO 7) Terampil mengaplikasikan teknik biologi dalam laboratorium dan kehidupan sehari-hari.  (PLO 8) Terampil memanfaatkan potensi lokal sesuai minat khusus dalam kajian ilmu biologi  (PLO 9) Mampu berkarir maupun menciptakan peluang kerja/berwirausaha di bidang biologi |
| Course Outcomes | After taking this course, the students have ability to understand:  CO1. Ruang lingkup teknologi pakan alami  CO2. Budidaya *Chlorella vulgaris*  CO3. Budidaya *Chironomus* sp.  CO4. Budidaya jangkrik (*Gryllus* sp.)  CO5. Budidaya *Spirogyra* sp.  CO6. Budidaya *Daphnia* sp.  CO7. Budidaya *Moina* sp.  CO8. Budidaya *Tubifex* sp.  CO9. Budidaya *Brachionus plicatilis*  CO10. Budidaya nyamuk (*Culex* sp.)  CO11. Budidaya belalang (Caelifera)  C012. Budidaya cacing kristal (*Lumbricus rubellus)*  CO13. Budidaya semut rangrang (*Oecophylla smaragdina)*  CO14. Budidaya diatom (*Chaetoceros* sp.)  CO15. Budidaya Rotifera  CO16. Budidaya lalat hitam (*Hermetia illucens*) |
| Content: | Matakuliah ini mengajarkan agar mahasiswa mampu menjelaskan (1.) Ruang lingkup teknologi pakan alami (2.) Budidaya *Chlorella vulgaris* (3.) *Chironomus* sp. (4.) Budidaya jangkrik (*Gryllus* sp.) (5.) Budidaya *Spirogyra* sp. (6.) Budidaya *Daphnia* sp. (7.) Budidaya *Moina* sp. (8.) Budidaya *Tubifex* sp. (9.) Budidaya *Brachionus plicatilis* (10.) Budidaya nyamuk (*Culex* sp.) (11.) Budidaya belalang (Caelifera) (12.) Budidaya cacing kristal (*Lumbricus rubellus)* (13.) Budidaya semut rangrang (*Oecophylla smaragdina)* (14.) Budidaya diatom (*Chaetoceros* sp.) (15.) Budidaya Rotifera (16.) Budidaya lalat hitam (*Hermetia illucens*). |
| Study/exam achievements: | The final mark will be weight as follow:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **No** | **CO** | **Assessment Object** | **Assessment Technique** | **Weight** | | 1 | Mencari referensi dan membuat makalah persentasi | Observed attitudes , knolwedge, and skills | Survey, test, rubrics and manuals | 20% | | 2 | Persentasi dan menanggapi pertanyaan | Observed attitudes , knolwedge, and skills | Survey, test, rubrics and manuals | 30% | | 3 | Ujian Akhir dan pembuatan produk | Observed attitudes , knolwedge, and skills | Survey, test, rubrics and manuals | 50% | |  |  |  | Total | 100% | |
| Formsof media: | Multimedia |
| Reference: | 1. Wirosaputro, S. 1998. *Clorella Makanan Kesehatan Global Alami*. Yogyakarta: Universitas Gajah Mada. 2. Djarijah, S.A. 1995. *Pakan Alami.* Yogyakarta: Kanisius. 3. Dahril, T.1996. *Rotifer Biologi dan Pemanfaatannya. Pekan Baru*: UNRI-Press. 4. Busniar, Munzir. 2006. *Entomologi*. Padang: Andalas University Press. 5. Yurisman dan Sukendi. 2004. *Biologi dan Kultur Pakan Alami*. Pekan Baru: UNRI Press. |

**PLO and CO mapping**

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|  | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| **CO1** |  |  |  | √ |  | √ |  |  |  |  |  |
| **CO2** |  |  | √ |  |  | √ | √ | √ | √ |  |  |
| **CO3** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO4** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO5** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO6** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO7** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO8** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO9** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO10** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO11** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO12** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO13** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO14** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO15** |  |  |  | √ |  | √ | √ | √ | √ |  |  |
| **CO16** |  |  |  | √ |  | √ | √ | √ | √ |  |  |