Module Handbook

Modul Name	Molecular Genetics (Practical Work)
Modul Level	Bachelor
Abbreviation, If applicable:	BIG 203
Sub---heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester	Even
Module Coordinator	Sugiharto, S.Si., M.Si.
Lectures	Dr. Sri Puji A., M.Si. Dr. Hamidah, M.Kes M. Hilman F.A., S.Si., M.Si.
Language	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course / ~~Elective Studies~~
Teaching format/ class hours per week during semester	300 minutes/ week
Workload per semester	100 min lecture + 100 min structural assignment + 100 min self-assignment x 13 weeks; total 3900 min = 65 hours 65/25 = 2.6 ECTS
Credit point	1
Requirements	Genetics
Learning goals/competencies	**General Competence (Skill)** Students are able to carry out practical activities in molecular genetics laboratories with respect to the ethics and safety; DNA and protein extraction properly. **Specific Competence** 1. Understanding the explanation of molecular genetics, the use of micropipette, and the general picture of electrophoresis 2. Students are able to isolate animal DNA 3. Students are able to isolate plant DNA 4. Students are able to do DNA electrophoresis of animal and plant 5. Students are able to extract animal and plant protein 6. Students are able to do protein electrophoresis of animal and plant
Content	Ethics working in the laboratory of molecular genetics, safety of the use of hazardous chemicals and toxic; introduction of micropipettes; extraction of DNA and protein; horizontal and vertical electrophoresis.
Soft skill Attribute	Discipline and team work
Study/ exam achievements	Students are considered to be competent and pass if at least get 40% of maximum. Final score (NA) is calculated as follow: Pre test (25%), Final Report (40%), final exam (35%) Final index is defined as follow: A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99

Form of media	LCD and Laboratory equipment
Learning Method	Practical Work
Literature	Artama W.T. _____. **Petunjuk Praktikum Teknik Dasar Isolasi DNA,** PAU Bioteknologi, Universitas Gadjah Mada. Clark, D.P. dan L.D. Russel. 2005. **Molecular Biology : Made Simple and Fun 3rd Edition,** Cache River Press. St. Louis. Fatchiyah, Arumningtyas E.L., Widyarti, S., Rahayu, S. 2009. **Dasar-Dasar Analisa Biologi Molekuler,** Lembaga Penerbitan Fakultas Pertanian, Universitas Brawijaya. Hames, B.D., dan Rickwood, D. 1990. **Gel Electrophoresis of Protein, 2nd Edition,** The Practical Approach Series, IRL Press. Hames, B. D. 1998. **Gel Electrophoresis of Protein: A Practical Approach 3th Edition,** Oxford University Press. Oxford. Kusumawaty D._____. **Isolasi DNA Skala Kecil (Buah, Daging, Darah, Bakteri),** Jurusan Biologi UPI Newton, C.A. dan A. Graham. 1997. **PCR, 2nd Edition**. Springer. Cheshire. Richardson, B.J., Baverstock, P.R., dan Adams, M. 1986. **Allozyme Electrophoresis; a Handbook for Animal Systematic and Population Studies**. Academic Presas, Inc.
Note	-