



THE MODULE HANDBOOK
DOCTOR BIOLOGY STUDY PROGRAM
FACULTY OF BIOLOGY

PHILOSOPHY OF SCIENCE

Course code	BIDB203101
Course level	Doctoral Program (Reguler)
Semester/ term	Odd/even
Course coordinator	Prof. Dr. Budi S. Daryono, M.Agr.Sc.
Lecture(s)	Drs. Hari Purwanto, M.P., Ph.D. Prof. Dr. Budi S. Daryono, M.Agr.Sc. Rina Sri Kasiamdari, S.Si., Ph.D. Dr. Eko Agus Suyono, S.Si., M.App.Sc. Dr. Bambang Retnoaji, M.Sc. Zuliyati Rohmah, S.Si., M.Si., Ph.D.Eng.
Language	Indonesian/English
Classification within the Curriculum	Compulsory
Teaching format/ class hours per week during the semester	This course is planned to have 14 teaching weeks and 2 weeks of examination.
Workload	90 hours
Credits	2-0 credits / 3.6 ECTS
Requirements	Receiving approval from the Supervisory Team.
Program Learning Outcome	<p>CPL 1.2. Upon completing this program, the graduates demonstrate an attitude of being able to demonstrate honesty, responsibility, self-confidence, emotional maturity, ethics, and awareness of being a lifelong learner</p> <p>CPL 2.1. Upon completing this program, the graduates demonstrate an understanding of the scientific philosophy of biology which is related in depth to structure, function, diversity, reproduction, evolution and engineering of biological systems.</p> <p>CPL 3.5. After completing this program, the graduates will be able to demonstrate academic leadership and increase independent learning capacity;</p> <p>CPL 4.3. After participating in this program, graduates will be able to apply the philosophy of biological systems in developing biological concepts in the areas of food, health, bioenergy, biomaterial and/or the environment.</p>



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Course Learning Outcome	<p>BIDB203101.1 By the end of this course, students will be able to understand the fundamental concepts of philosophy and the philosophy of science.</p> <p>BIDB203101.2 By the end of this course, students will be able to analyze the correlation between philosophy and the development of science.</p> <p>BIDB203101.3 By the end of this course, students will be able to develop the ability to think critically about the fundamental assumptions and scientific models</p> <p>BIDB203101.4 By the end of this course, students will be able to integrate ethics, honesty, and dignity into science.</p> <p>BIDB203101.5 By the end of this course, students will be able to design scientific research based on philosophy of science</p>
Course Description	<p>This course provides a comprehensive examination of the principles of the philosophy of science, the correlation between science, philosophy, and scientific methodology, as well as the philosophical underpinnings that have shaped the development of scientific knowledge. Students will engage with core concepts in the philosophy of science, including the fundamental assumptions of scientific inquiry, modes of scientific reasoning, the relationship between scientific laws and theories, and the correlation of ethics and science. The course further underscores the significance of integrating core values such as honesty, dignity, and ethical responsibility into science.</p>
Assessments	<p>The assessment for Philosophy of Science is based on two main components, with the respective criteria and weights:</p> <p>A. Participatory Activity (55%)</p> <ul style="list-style-type: none">• Structured Assignment/Task (10%)• Mid-term Examination (10%)• Final-term Examination (10%)• Participation (25%) <p>B. Project (45%)</p> <ul style="list-style-type: none">• Structured Assignment/Task (10%)• Quizzes (5%)• Project Result (30%)
Study Media and Literature	<ul style="list-style-type: none">• Any journals, books and articles related to philosophy of science topic