



PORTFOLIO

Department of Agrotechnology

Faculty of Agriculture

University of Islam Malang

Subject	Research Methodology and Philosophy of Science
Module Level,if available	Undergraduate Study Program of Agrotechnology
Subject Code	MPB 4101
Type of course	Applied Science
Credits	3 credits/5.1ECTS
Semester	7
Prerequisite	Experimental Design
Parallel Class	A, B and C
Module Description	This course provides students with a deep understanding of the concepts of Philosophy of Science, the truth of Science, scientific tools for developing science, basic research concepts, good problem formulation, research proposal preparation with established rules, analysis and interpretation of research data, preparation of research reports. in the form of thesis and seminar simulation of research results and thesis exams. Learning activities in the form of lectures and independent assignments and practicum using the library
Learning Outcomes	Course Learning Outcomes (CLO) CLO 1: Understanding the theoretical concepts of Philosophy of Science in Research CLO 2: Able to find, formulate and find solutions to research problems CLO 3: Able to find references, plan and apply research methods in the field of agrotechnology CLO 4: Able to compile research reports and present in front of forums with good communication
Learning Content	After completing this subject students are able to: 1. Able to master the concept of Philosophy of Science from various points of view and human efforts to seek the truth with various scientific and non-scientific approaches 2. Able to identify the basics of science, namely ontology, epistemology and axiology as well as scientific means to develop which consist of language, mathematics, statistics and logic 3. Able to find research problems, identify and formulate using the correct steps and the right concepts to be used for scipsi making 4. Able to find research problems, identify and formulate using the correct steps and the right concepts to be used for thesis making 5. Able to perform analysis, interpretation and evaluation of the data obtained from the research results in order to use the logic coherently 6. Able to compile research reports written in thesis format and make articles to be published and simulated in the form of seminars
Aims	Students have competence in being able to compile research reports written in the form of Thesis format and create articles to be published and simulated in the form of seminars
Teaching Methods	Several methods applied in this course consist of lecturing, assignment, and group presentation. All these methods are applied on classes
Participant	<ul style="list-style-type: none"> • A class: 22 students in total; 5th semester = 6 students; 7th semester = 14 student, 9th semester = 2 students; • B class: 24 students in total; 5th semester = 6 students; 7th semester = 15 student, 9th semester = 3 students; • C class: 29 students in total; 5th semester = 10 students, 7th semester = 18 student, and 9th semester = 1 students

Teaching Attendance	<p>14 meetings were completely held (100%) by lecturer (A, B and C classes)</p> <p>From 22 students, 7 students were below 100% of attendance (A class)</p> <p>From 24 students, 9 students were below 100% of attendance (B class)</p> <p>From 29 students, 10 students were below 100% of attendance (C class)</p>
Evaluation System	<p>Component of assessment on this course consist of regular assignment, midle semester test and final semester test, presence and practice. All these component are then combined to obtain final score. Scoring matrices and questions amples are available in Appendix 1 and Appendix 2</p>
Learning Result	<ul style="list-style-type: none"> • Achievement CLO in A Class CLO1= 80.78 (Excellent) CLO2= 81.18 (Excellent) CLO 3 = 78.10 (Excellent) CLO 4=75.29 (Excellent) • Achievement CLO in B Class CLO 1 = 75.67 (Excellent), CLO 2 = 81.94 (Excellent), CLO 3 = 72.46 (Excellent) CLO 4= 76.99 (Excellent) • Achievement CLO in C Class CLO 1 = 74.87 (Excellent), CLO 2 = 86.48 (Excellent), CLO 3 = 75.87 (Excellent) CLO 4=80.40 (Excellent) <p>Complete achievement on average CLO can be seen on Appendix 3</p>
Statistical Distribution	<ul style="list-style-type: none"> • A Class, score distribution: A=7 students (31.82%), B=10 students (45.46%), C=3 student (13.64%) and Failed = 2 students (9.09%) • B Class, score distribution: A=6 students (25%), B=4 students (17%), C=4 student (17%) and Failed = 10 students (42%) • C Class, score distribution: A=7 students (24%), B=13 students (45%), C=4 student (14%) and Failed = 5 students (17%) <p>Complete achievement on each per student can be seen on Appendix 4</p>
Teaching Observation	<p>Materials were delivered in Indonesia. The student could understand the materials well.</p> <ul style="list-style-type: none"> • In A Class: there were 1 student poor on both CLO 1, 1 student poor on both CLO 2, 2 students poor on CLO 3 and 2 students poor on CLO 4, 2 of them were from 7th semester and above • In B Class: there were 7 students poor on both CLO 1, 5 students poor on both CLO 2, 7 students poor on CLO 3 and 4 students poor on CLO 4, 2 of them were from 7th semester and above • In C Class: there were 8 students poor on both CLO 1, 3 students poor on both CLO 2, 7 students poor on CLO 3 and 3 students poor on CLO 4, 2 of them were from 7th semester and above
Learning Constraints	<p>A, B and C Class: Lack of practice in the field makes it difficult for students to understand the process of plant propagation</p>

Recommendation	Paying more attention for students who hardly understand the materials
----------------	--

Appendix 1. Scoring Matrix

Nomenclature	Weight	Final Score	
		Letter Mark	Score average
Assignment	35%	A	80 – 100
Midle semester test	20%	B	70 - <80
Final semester test	20%	C	55 - <70
Practice	15%	D	50 - < 55
Presence	10%	E	0 - <50

Appendix 2. Questionsamples

1. What is the role of Philosophy of Science in supporting the development of research in agriculture. Show the empirical evidence that has been produced!(to echieve CLO 1)
2. Show how the steps are to find, formulate and find solutions to problems, so that it is feasible to do research! (to echieve CLO 2)
3. How to choose a library that fits the topic you are researching, what kind of library sources have high scientific value?(to echieve CLO 3)
4. Preparation of research reports requires special care, how to prepare a good report and present it in front of the forum?(to echieve CLO 4)

Appendix 3.Achievement of CLO

A Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)	CLO 4 (%)
1-2	86.36			
3		84.94		
4-5		83.60		
6-7			80.52	
8	75.42			
9-10			75.57	
11		75.00		
12				75.00
13-14				75.57
Average	80.78	81.18	78.10	75.29
Predicate	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

B Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)	CLO 4 (%)
1-2	80.11			
3		86.65		
4-5		81.90		
6-7			70.48	
8	71.22			
9-10			74.43	
11		77.27		
12				76.70
13-14				77.27
Average	75.67	81.94	72.46	76.99
Predicate	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

C Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)	CLO 4 (%)
1-2	76.25			
3		91.19		
4-5		86.44		
6-7			72.75	
8	73.49			
9-10			78.98	
11		81.82		
12				81.25
13-14				79.55
Average	74.87	86.48	75.87	80.4
Predicate	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

Standard

Stdnum-basedAI		WeightedavgLObasedAI	
70<=AI	HIGH	70<=AI	EXCELLENT
60<= AI< 70	MEDIUM	60<= AI< 70	SATISFACTORY
50<= AI< 60	LOW	50<= AI< 60	DEVELOPING
AI<50	VERYLOW	AI<50	UNSATISFACTORY

No.	Nomer IndukMahasiswa	NamaMahasiswa	CLO1	CLO2	CLO3	CLO4
			Score	Score	Score	Score
1	21501031019	BRILIANTO CANDRAYOGA	27,50	25,00	25,00	25,00
2	21601031001	FARIS SHOFA ISMAIL	81,25	79,17	75,00	75,00
3	21601031004	AZHAR	81,25	83,33	79,25	75,00
4	21601031006	IKBAL YUNUS	81,25	87,50	75,00	75,00
5	21601031007	SULAIMAN	75,00	75,00	75,00	75,00
6	21601031008	ROUDHOTUL CHASANA	75,00	79,17	79,25	75,00
7	21601031009	NURWAHDANIA	87,50	83,33	81,25	75,00
8	21601031010	NUR CHOFIFAH	81,25	81,25	75,00	75,00
9	21601031011	PUTRI NUR AZIZAH	93,75	87,50	81,25	75,00
10	21601031012	MAS UDI	93,75	87,50	93,75	87,50
11	21601031013	PURNADI	89,63	87,50	87,50	75,00
12	21601031014	IKA APRILIA RAHAYU PUT	93,75	91,67	75,00	75,00
13	21601031016	NURALIAH	87,50	95,83	93,75	81,25
14	21601031018	ABDUL HARIS	81,25	83,33	89,63	93,75
15	21601031019	MUHAMMAD RANO FAHMI	75,00	79,17	93,75	68,75
16	21601031020	EKA RIZKYANI NUGRAHAYY	93,75	95,83	75,00	75,00
17	21601031022	MUHAMMAD IRWAN YUDHA P	87,50	88,92	89,63	87,50
18	21601031024	ROSITA DWI ANGGRAENI	81,25	58,33	75,00	75,00
19	21601031027	BURHANUDIN FIRDAUS	81,25	91,67	87,50	75,00
20	21601031028	MOHAMMAD SHOLEH	75,00	82,50	56,25	87,50
21	21601031031	NIA ALAWIYAH	75,00	79,17	79,25	75,00
22	21601031032	MOH. RIZQI AMIN YAHYA	81,25	83,33	75,00	75,00

No.	Nomer Induk Mahasiswa	Nama Mahasiswa	CLO1	CLO2	CLO3	CLO4
			Score	Score	Score	Score
1	21501031049	AINUL BAHTIAR RAIS	25,00	25,00	25,00	25,00
2	21601031030	FARIDH ADE MAIZAKUSUMA	50,00	62,50	75,00	75,00
3	21601031033	AHMAD FILARDI	81,25	83,33	79,25	75,00
4	21601031035	SITI ROHIMAH	81,25	87,50	75,00	75,00
5	21601031037	FATQUR ROHMAN AFANDI	50,00	75,00	75,00	75,00
6	21601031038	LIZDA AS'ADIYA	75,00	79,17	79,25	75,00
7	21601031039	EDWINDRA PANDEGA BUANA	87,50	83,33	81,25	75,00
8	21601031040	MOHAMMAD NASIR	81,25	81,25	75,00	75,00
9	21601031042	MUHAMMAD YUSRIL IN`AM	25,00	25,00	25,00	25,00
10	21601031043	HENDRA ADI SAPUTRA	25,00	25,00	25,00	25,00
11	21601031045	NURMA WAHIDIYAH	89,63	87,50	87,50	75,00
12	21601031047	DARDIANSYAH	93,75	91,67	75,00	75,00
13	21601031049	MOHAMAD GHUFRON MARDIY	87,50	95,83	93,75	81,25
14	21601031051	CHATARINA AMALIA DWI S	81,25	83,33	89,63	93,75
15	21601031052	HALIM	75,00	79,17	25,00	68,75
16	21601031053	FIRMAN HIDAYAT	93,75	95,83	75,00	75,00
17	21601031054	ULFATUZ ZAHROH	50,00	88,92	89,63	87,50
18	21601031057	MOHAMMAD PENDI	81,25	58,33	75,00	75,00
19	21601031058	QONAIZA GILANG WISANG	81,25	91,67	87,50	75,00
20	21601031059	A. R. DARMAWAN PUTRA	75,00	82,50	56,25	87,50
21	21601031062	MUHAMMAD AMAL FIRDAUS	75,00	79,17	50,00	75,00
22	21601031064	YENNI DWI ISMAWATI	75,00	79,17	50,00	75,00
23	21601031065	FIRMAN APRILIANTO DWI	75,00	79,17	50,00	75,00
24	21601031085	PRAYOGO SULISTYONO	50,00	83,33	75,00	75,00

C Class

No.	Nomer Induk Mahasiswa	Nama Mahasiswa	SUB-CPMK/BOBOT (NILAI HARIAN)																NILAI HARIAN (Assignment) (35%)		Middle Test (20%)	Final Test (20%)	Presen ce (10%)	Practice (15%)	NILAI AKHIR **				
			1		2		3		4		5		6		7		8		9						Skala 4	Skala 100	ANGKA	HURUF	
				10%		5%		20%		10%		5%		13%		8%		10%		20%									
1	21501031043	ARYA BAGUS WICAKSONO	3,00	0,15	3,00	0,45	3,00	0,45	3,00	0,15	1,00	0,20	3,00	0,15	3,00	0,15	3,00	0,30	1,00	0,20	2,20	55,00	60	50	70	1	51,03	D	
2	21501031055	ANODIK NOVIAN PRASETYO	3,00	0,15	3,50	0,53	1,00	0,15	3,00	0,15	1,00	0,20	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,38	59,38	65	60	100	70	71,5	B	
3	21601031003	SELI TRISNAWATI	3,50	0,18	4,00	0,60	3,00	0,45	3,34	0,17	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,19	79,80	100	100	100	85	90,15	A	
4	21601031005	SITI HADJATUN SUWALDI	3,50	0,18	4,00	0,60	3,50	0,53	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,25	81,25	65	60	100	75	73,85	B	
5	21601031015	MOHAMMAD ZAKARIYA YAHYA	3,00	0,15	3,00	0,45	3,00	0,45	3,00	0,15	1,00	0,20	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,60	65,00	60	65	100	80	73,8	B	
6	21601031017	MOCH. KHOLID SYARIFUDD	3,00	0,15	3,50	0,53	3,00	0,45	3,34	0,17	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,09	77,30	85	75	100	85	81,55	A	
7	21601031021	MARIA GRESSELARA KRIST	3,50	0,18	3,50	0,53	3,00	0,45	3,00	0,15	3,00	0,60	3,50	0,18	3,50	0,18	3,00	0,30	3,00	0,60	3,15	78,75	70	60	100	85	74,4	B	
8	21601031050	ESTI NURITIASARI	3,50	0,18	3,25	0,49	3,50	0,53	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,14	78,44	65	60	100	70	71,35	B	
9	21601031056	INDRA HIDAYATULLAH	3,00	0,15	3,00	0,45	3,00	0,45	1,00	0,05	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,70	67,50	65	50	70	1	51,28	D	
10	21601031067	M. ALVIN ALFALAH	1,00	0,05	1,00	0,15	1,00	0,15	1,00	0,05	1,00	0,20	1,00	0,05	1,00	0,05	1,00	0,10	1,00	0,20	1,20	30,00	40	50	100	80	66,6	C	
11	21601031068	MUCHAMMAD AUFACHBARO	3,50	0,18	3,50	0,53	3,50	0,53	4,00	0,20	3,67	0,75	3,00	0,15	3,50	0,18	3,00	0,30	3,00	0,60	3,38	84,60	90	90	100	80	84,8	A	
12	21601031070	TAUFIKURRAHMAN	3,00	0,15	4,00	0,60	4,00	0,60	3,00	0,15	3,50	0,70	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,45	86,25	90	60	100	80	78,8	B	
13	21601031071	MDH. AVIF AMRULLAH	4,00	0,20	4,00	0,60	4,00	0,60	4,00	0,20	3,00	0,60	3,50	0,18	3,50	0,18	3,50	0,35	3,00	0,60	3,50	87,50	60	60	100	85	73,8	B	
14	21601031072	NUR QOWIT WUAYANTI	3,50	0,18	3,50	0,53	3,50	0,53	3,67	0,18	3,00	0,60	3,50	0,18	3,00	0,15	3,50	0,35	4,00	0,80	3,45	85,84	45	50	100	1	56,2	C	
15	21601031074	ISTIQOMA RUSDIANA RAHA	3,00	0,15	3,00	0,45	3,50	0,53	1,00	0,05	3,00	0,60	1,00	0,05	3,00	0,15	3,00	0,30	2,50	0,50	2,78	69,38	60	50	100	80	71,05	B	
16	21601031076	MUHAMMAD NOVIT MISDWI	3,00	0,15	4,00	0,60	4,00	0,60	3,00	0,15	3,50	0,70	3,00	0,15	3,50	0,18	3,00	0,30	3,00	0,60	3,45	85,65	60	60	100	75	72,05	B	
17	21601031078	MIFTAHUR ROHMAH	1,00	0,05	4,00	0,60	3,67	0,55	3,67	0,18	3,00	0,60	3,50	0,18	3,00	0,15	3,00	0,30	4,00	0,80	3,41	85,23	80	85	100	85	83,35	A	
18	21601031079	DREDDY AKBAR FALLAH ILL	3,50	0,18	1,00	0,15	3,00	0,45	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,73	68,13	60	50	95	80	71,6	B	
19	21601031080	AHMAD SHOLIH	3,50	0,18	4,00	0,60	4,00	0,60	4,00	0,20	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,45	85,65	1	50	100	75	58,65	C	
20	21601031081	MOCH. NASRULLAH FAHMI	3,00	0,15	3,50	0,53	3,40	0,51	2,00	0,10	2,00	0,40	2,50	0,15	3,00	0,15	3,50	0,35	3,50	0,70	2,96	74,00	85	80	100	85	83,35	A	
21	21601031082	BRASTANGKORO GALIH SET	3,00	0,15	3,50	0,53	3,00	0,45	1,00	0,05	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,98	74,38	60	60	100	1	53,43	D	
22	21601031083	IGAMAWARNI	3,00	0,15	3,50	0,53	3,00	0,45	1,00	0,05	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,00	75,00	65	70	100	85	76,8	B	
23	21601031084	FACHRUL IMAL KURNIA	3,00	0,15	3,50	0,53	3,00	0,45	1,00	0,05	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,98	74,35	70	50	100	1	54,28	D	
24	21601031086	RISKIKA ADIKANTARI	1,00	0,05	3,50	0,53	3,50	0,53	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,08	76,88	45	60	100	85	70,15	B	
25	21601031087	EKO IRWAN SAPUTRA	3,50	0,18	3,00	0,45	3,00	0,45	3,50	0,18	3,50	0,70	3,00	0,15	3,00	0,15	3,50	0,35	3,00	0,60	3,15	78,75	75	50	100	1	61,95	C	
26	21601031089	RETNO DWI SISARTI	3,50	0,18	3,00	0,45	3,00	0,45	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,05	75,65	65	50	100	75	72,8	B	
27	21601031091	NURHAIDAH	3,50	0,18	3,00	0,45	3,00	0,45	3,00	0,15	1,00	0,20	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	2,68	66,88	60	60	100	1	53,18	D	
29	21601031092	RUBIATUL ADAWIYAH	3,50	0,18	3,50	0,53	3,00	0,45	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,50	0,35	3,00	0,60	3,10	77,50	80	80	100	85	84,25	A	
29	21601031093	MOHAMMAD IRWAN SYAHRON	3,50	0,18	3,00	0,45	3,00	0,45	3,00	0,15	3,00	0,60	3,00	0,15	3,00	0,15	3,00	0,30	3,00	0,60	3,05	76,25	65	70	100	80	72,18	B	
	Rata-rata		3,05	0,16	3,65	0,55	3,46	0,52	2,91	0,15	2,94	0,59	3,16	0,16	3,27	0,16	3,25	0,33	3,18	0,64	3,25	81,15							
	Konversi Skala 100			4,03	91,19	13,68	86,44	12,97	72,75	3,64	73,49	14,70	78,98	3,95	81,82	4,09	81,25	8,13	79,55	15,91									

% Mahasiswa tidak lulus	17%
% Mahasiswa nilai A	24%
% Mahasiswa nilai B	45%
% Mahasiswa nilai C	14%

No.	Nomer IndukMahasiswa	NamaMahasiswa	CLO1	CLO2	CLO3	CLO4
			Score	Score	Score	Score
1	21501031043	ARYA BAGUS WICAKSONO	50,00	75,00	75,00	50,00
2	21501031055	ANGGIK NOVIAN PRASETYO	50,00	62,50	75,00	75,00
3	21601031003	SELI TRISNAWATI	81,25	83,33	79,25	75,00
4	21601031005	SITI HADIJATUN SUWALDI	81,25	87,50	75,00	75,00
5	21601031015	MOHAMMAD ZAKARIYA YAHYA	50,00	75,00	75,00	75,00
6	21601031017	MOCH. KHOLID SYARIFUDD	75,00	79,17	79,25	75,00
7	21601031021	MARIA GRESSELARA KRIST	81,25	83,33	81,25	75,00
8	21601031050	ESTI NURTITASARI	81,25	81,25	75,00	75,00
9	21601031056	INDRA HIDAYATULLAH	75,00	75,00	50,00	75,00
10	21601031067	M. ALVIN ALFALAH	25,00	25,00	25,00	25,00
11	21601031068	MUCHAMMAD AUFA ACHBARO	89,63	87,50	87,50	75,00
12	21601031070	TAUFIKURRAHMAN	81,25	91,67	75,00	75,00
13	21601031071	MOH. AVIF AMIRULLAH	87,50	95,83	93,75	81,25
14	21601031072	NUR QOWIY WIJAYANTI	81,25	83,33	89,63	93,75
15	21601031074	ISTIQOMA RUSDIANA RAHA	75,00	79,17	25,00	68,75
16	21601031076	MUHAMMAD NOVIT MISDWI	81,25	95,83	75,00	75,00
17	21601031078	MIFTAHUR ROHMAH	50,00	88,92	89,63	87,50
18	21601031079	GREDY AKBAR FALLAH ILL	81,25	58,33	75,00	75,00
19	21601031080	AHMAD SHOLEH	81,25	91,67	87,50	75,00
20	21601031081	MOCH. NASRULLAH FAHMI	62,50	82,50	56,25	87,50
21	21601031082	BRASTANGKORO GALIH SET	75,00	79,17	50,00	75,00
22	21601031083	IGAMAWARNI	75,00	79,17	50,00	75,00
23	21601031084	FACHRUL IMAL KURNIA	75,00	79,17	50,00	75,00
24	21601031086	RISKIKA ADIKANTARI	50,00	83,33	75,00	75,00
25	21601031087	EKO IRWAN SAPUTRA	87,50	75,00	81,25	81,25
26	21601031089	RETNO DWI SISARTI	81,25	75,00	75,00	75,00
27	21601031091	NURHAIDAH	56,25	75,00	75,00	75,00
29	21601031092	RUBIATUL ADAWIYAH	81,25	79,17	75,00	81,25
29	21601031093	MOCHAMAD IRVAN SYAHRON	81,25	75,00	75,00	75,00