

Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Biology Education Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

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Courses			CODE				Co	urse I	amily	/	1	Credi	t Wei	ght	5	SEMES	TER	Co Da	mpilati te	ion
Innovative Lea	arning		842050329	93					ory St Subje		-	T=3	P=0	ECTS=4.	77	3	3	Jul	y 17, 20	024
AUTHORIZATI	ON		SP Develo	per				gram	cabje		urse	Clust	er Co	ordinato	r S	Study P	rogran	n Coor	dinato	r
			Dr. Sifak Ir	ndana	, M.Pd	1				Pro M.F		Enda	ang Si	usantini,		Dr. Rir		iwi Pus I.Si.	spitawa	ıti,
Learning model	Project Based Le	arning																		
Program Learning	PLO study prog	ram th	nat is charg	ged to	o the	cour	se													
Outcomes	PLO-9	Able to	o design, im	oleme	nt and	l evalı	uate b	iology	learn	ing by	' utiliz	zing IC	CT							
(PLO)	Program Object	ives (F	PO)																	
	PO - 1	Unders	standing coo	perati	ive lea	rning														
	PO - 2	Unders	standing 5M	learni	ing															
	PO - 3	Unders	standing CT	L learı	ning															
	PO - 4	Unders	standing Dis	cover	y/inqui	iry lea	rning													
	PO - 5	Unders	standing PB	L learı	ning															
	PO - 6	Unders	standing PJE	3L lea	rning															
	PO - 7	Unders	standing TP/	ACK le	earnin	g														
	PLO-PO Matrix																			
			P.0		PLC)-9														
			PO-1																	
			PO-2																	
			PO-3																	
			PO-4																	
			PO-5																	
			PO-6																	
			PO-7																	
			10-7																	
	DO Matrix at the					- (0)	- DO													
	PO Matrix at the	ena o	of each lea	rning	stag	e (Su	10-PO)												
																				1
			P.0									Wee	1	1			1	1	, 	
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		PO-	-1																	
		PO-	-2																	
		PO-	-3																	
		PO-	-4																	
		PO-	-5																	
		PO-	-6																	
		PO-	-7										1							
		L		I			I	I				<u> </u>				1	1	1	<u>. </u>	1
Short Course Description	Study of learning n discovery learning assessment is carn learning tools, wor activity ends with a and reflection activ	i and c ried ou rkshops an exer	contextual le t through th s on develo	earnin e pres ping l	g as s sentati earnin	well a on of ig too	as pro conce Is by	oject-b epts, p stude	ased resen nts or	learni tation iented	ng a of op I towa	nd Te peratio ards e	chnol onal e each l	ogical Pe examples of earning m	dago of ead 10del	gical C ch learn and sti	ontent ing mo rategy.	Knowl del in t The a	edge. the forr ssessm	The n of nent

Reference	es Main :						
	 Arends, McGraw Ibrahim, Ibrahim, 	Richard I. 2012. Learnin Richard I. 2004. Guide Hill Book Company Muslimin. 2012. Pembel Muslimin., Rachmadiarti nammad. 2000. Pembela	to Field Experiences ar ajaran Berdasarkan Mas , F., Ismono. 2005. Pem	nd Portofolio De salah Edisi II. Su belajaran Koope	velopment: to accompa rabaya: University Pres ratif. Surabaya : Pusat	any; learning to tead s Sains dan Matematil	
	Supporters:						
Supportin lecturer	Dr. Rinie Pratiwi	Puspitawati, M.Si. Susantini, M.Pd. M.Pd.					
Week-	inal abilities of each learning stage	Evalı	lation	Learn Studen	p Learning, ing methods, t Assignments, timated time]	Learning materials [References]	Assessment Weight (%)
(Sub-PO)	Indicator	Criteria & Form	Offline(offline)	Online (<i>online</i>)	[References]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	 Understand the characteristics of cooperative learning and 5M Explain the characteristics of 5M cooperative learning tools Explain the learning steps using cooperative learning and 5M learning 	 Explain the characteristics of cooperative learning and 5M learning Explain the theories that support cooperative learning and 5M learning Explain the characteristics of cooperative devices and 5M Learning Explain the steps of cooperative learning model and 5M Learning 	 Criteria: The assessment is carried out on the following aspects: Participation during lectures and peer teaching is carried out through observation (weight 2). The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) Sax Performance Scores during plus 2x grades for RPP averaged as UAS scores, given a weight of (3) The final NA is (participation value x2) (assignment value x3) (UTS value x2) UAS value (3) divided by 10 	Presentation and discussion 3 X 50		Material: Cooperative learning model and 5M learning References: Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.	0%

2	Develop cooperative	Being able to make	Criteria:	workshops	Material:	0%
	learning tools and	decisions is	1.The assessment	3 X 50	Development of	270
	5M Learning for relevant topics	characterized by skillfully developing	is carried out on		cooperative type	
	relevant topics	tools using various	the following		learning model	
		relevant learning	aspects:		tools and 5M	
		sources	2.Participation		Library: Ibrahim,	
			during lectures		Muslimin.,	
			and peer		Rachmadiarti, F., Ismono. 2005.	
			teaching is		Cooperative	
			carried out		Learning.	
			through		Surabaya:	
			observation		School Science	
			(weight 2).		and Mathematics	
			3.The cumulative		Center.	
			test is carried out			
			twice, assessing			
			all relevant			
			indicators			
			through a written exam, averaged			
			and given a			
			weight of 2.			
			4.Assessment of			
			RPP products			
			and learning			
			tools other than			
			those displayed			
			in peer teaching,			
			is considered an			
			assignment, the			
			scores are			
			averaged, then			
			given a weight			
			(3) 5.3x Performance			
			Scores during			
			peer teaching			
			plus 2x grades			
			for RPP			
			averaged as			
			UAS scores,			
			given a weight of			
			(3)			
			6.The final NA is			
			(participation			
			value x2)			
			(assignment			
			value x 3) (UTS			
			value x 2) UAS value (3) divided			
			by 10			
			2, 20			
			Forms of			
			Assessment :			
			Participatory			
			Activities, Project			
			Results Assessment / Product Assessment			

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3	Develop cooperative	Being able to make	Criteria:	workshops	Material:	0%
	learning tools and	decisions is	1.The assessment	3 X 50	Development of	
	5M Learning for	characterized by	is carried out on		cooperative type	
	relevant topics	skillfully developing tools using various	the following		learning model	
		relevant learning	aspects:		tools and 5M	
		sources	2.Participation		Library: Ibrahim,	
			during lectures		Muslimin.,	
			and peer		Rachmadiarti, F.,	
					Ismono. 2005.	
			teaching is		Cooperative	
			carried out		Learning.	
			through		Surabaya:	
			observation		School Science	
			(weight 2).		and Mathematics	
			3.The cumulative		Center.	
			test is carried out			
			twice, assessing			
			all relevant			
			indicators			
			through a written			
			exam, averaged			
			and given a			
			weight of 2.			
			Assessment of			
			RPP products			
			and learning			
			tools other than			
			those displayed			
			in peer teaching,			
			is considered as			
			an assignment,			
			the scores are			
			averaged, then			
			given a weight			
			(3)			
			5.3x Performance			
			Scores during			
			peer teaching			
			plus 2x grades			
			for RPP			
			averaged as			
			UAS scores,			
			given a weight of			
			(3)			
			6.The final NA is			
			(participation			
			value x2)			
			(assignment			
			value x 3) (UTS			
			value x 2) UAS			
			value (3) divided			
			by 10			
			Forms of			
			Assessment :			
			Participatory			
			Activities, Project			
			Results Assessment /			
			Product Assessment			
			saast, isocoomont			

is considered an assignment, the scores are averaged, then given a weight (3) 5.3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6.The final NA is (participation value x2) (assignment value x2) (UTS value x2) UAS value (3) divided by 10 Forms of Assessment : Participatory Activities, Project

5	1.Understand the	1. Explain the	Criteria:	Presentation, discussion,		Material: CTL and	0%
	characteristics of	characteristics of	1.The assessment	reflection,		Discovery/inquiry	
	CTL and	CTL and	is carried out on	modeling		learning models	
	Discovery/inquiry	discovery/inquiry	the following	and		References:	
	learning	learning	aspects:	observation		Ibrahim,	
	2.Explain the	Explain the	2.Participation	3 X 50		Muslimin	
	characteristics of	theories that	during lectures	5 X 50		Rachmadiarti, F.,	
	CTL and	support CTL	and peer			Ismono. 2005.	
	Discovery/inquiry	learning and	teaching is			Cooperative	
	learning tools	discovery/inquiry	carried out			Learning.	
	3.Explain the	3. Explain the	through			Surabaya:	
	learning steps	characteristics of	observation			School Science	
	using CTL and	CTL and	(weight 2).			and Mathematics	
	Discovery/inquiry	Discovery/inquiry	3. The cumulative			Center.	
	learning	tools	test is carried out				
	learning	4. Explain the	twice, assessing			Material: CTL	
		steps in learning	all relevant			learning model	
		the CTL and	indicators			Reference:	
		Discovery/inquiry	through a written			Arends, Richard	
		models	exam, averaged			I. 2012. Learning	
		mouels	and given a			To Teach sixth	
			weight of 2.			Edition. New	
						York: McGraw-	
			4.Assessment of			Hill Book	
			RPP products			Company.	
			and learning				
			tools other than				
			those displayed				
			in peer teaching,				
			is considered as				
			an assignment,				
			the scores are				
			averaged, then				
			given a weight				
			(3)				
			5.3x Performance				
			Scores during				
			peer teaching				
			plus 2x grades				
			for RPP				
			averaged as				
			UAS scores,				
			given a weight of				
			(3)				
			6.The final NA is				
			(participation				
			value x2)				
			(assignment				
			value x 3) (UTS				
			value x 2) UAS				
			value (3) divided				
			by 10				
			Dy IO				
			Forms of				
			Assessment :				
			Participatory				
			Activities, Project				
			Results Assessment /				
			Product Assessment,				
			Tests				
					1		

			1	 	
6	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	Criteria: 1.The assessment is carried out on the following aspects: 2.Participation during lectures	Workshop 3 X 50	Material: CTL and Discovery/inquiry learning models References: <i>Ibrahim,</i> <i>Muslimin.,</i> <i>Rachmadiarti, F.,</i>	0%
		and peer teaching is carried out through observation (weight 2). 3.The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a		Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center. Material: CTL learning model Reference: Arends, Richard I. 2012. Learning To Teach sixth	
		weight of 2. 4.Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight		Edition. New York: McGraw- Hill Book Company.	
		 (3) 5.3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6.The final NA is (participation value x2) 			
		(assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Tests			

7	Develop CTL and Discovery/inquiry learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	Criteria: 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6 The final NA is (participation value x2) (assignment value x3) (UTS value x2) UAS value (3) divided by 10 Forms of Assessment : Participatory Activities, Project Results Assessment, Tests	Workshop 3 X 50	Material: CTL and Discovery/inquiry learning models References: <i>Ibrahim,</i> <i>Rachmadiarti, F.,</i> <i>Ismono.</i> 2005. <i>Cooperative</i> <i>Learning.</i> <i>Surabaya:</i> <i>School Science</i> <i>and Mathematics</i> <i>Center.</i> Material: CTL learning model Reference: <i>Arends, Richard</i> <i>1.</i> 2012. <i>Learning</i> <i>To Teach sixth</i> <i>Edition. New</i> <i>York: McGraw-</i> <i>HIII Book</i> <i>Company.</i>	0%
8	UTS	UTS	Criteria: 1.The assessment is carried out on the following aspects: 2.Paper and Pencil test multiple choice and essay	UTS 2 X 50		0%

9	Develop CTL and Discovery/inquiry learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	Criteria: 1.The assessment is carried out on the following aspects: 2.Participation during lectures and peer teaching in	Workshop 3 X 50	Material: CTL and Discovery/inquiry learning models References: Arends, Richard I. 2012. Learning To Teach sixth Edition. New	0%
			teaching is carried out through observation (weight 2). 3.The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4.Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5.3x Performance Scores during peer teaching plus 2x grades		Edition. New York: McGraw- Hill Book Company. Material: CTL learning model and Discovery/inquiry References: Arends, Richard I. 2004. Guide to Field Experiences and Portfolio Development: to accompany; learning to teach . New York: McGraw-Hill Book Company	
			for RPP averaged as UAS scores, given a weight of (3) 6.The final NA is (participation value x2) (assignment value x 3) (UTS value x 3) (UTS value x 2) UAS value (3) divided by 10 Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment			

10	 Understand the characteristics of PBL and PJBL learning Explain the characteristics of PBL and PJBL learning steps using PBL and PJBL learning 	 Explain the characteristics of PBL and PJBL learning Explain the theories that support PBL and PJBL learning Explain the characteristics of PBL and PJBL devices Explain the steps for learning the PBL and PJBL models 	 Criteria: The assessment is carried out on the following aspects: Participation during lectures and peer teaching is carried out through observation (weight 2). The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) Sax Performance Scores during pus 2x grades for RPP averaged as UAS scores, given a weight of (3) The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 	Presentation, Discussion and reflection Modeling, observation and reflection 3 X 50	Material: PBL and PJBL learning models Reader: Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press	0%
			Participatory Activities, Project Results Assessment / Product Assessment			

11	Develop PBL and PJBL learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	 Criteria: The assessment is carried out on the following aspects: Participation during lectures and peer teaching is carried out through observation (weight 2). The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) S.3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) The final NA is 	Workshop 3 X 50	Material: PBL and PJBL learning models Reader: Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press	0%
			given a weight of (3)			
			Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment			

							1
12	Develop PBL and	Being able to make	Criteria:	Workshop		Material: PBL	0%
	PJBL learning tools	decisions is characterized by	1.The assessment	3 X 50		and PJBL	
	for relevant topics	skillfully developing	is carried out on			learning models	
		tools using various	the following			Reader: Ibrahim,	
		relevant learning	aspects:			Muslimin. 2012.	
		sources	2.Participation			Problem Based	
			during lectures			Learning II	
			and peer			Edition.	
			teaching is			Surabaya:	
			carried out			University Press	
			through				
			observation				
			(weight 2).				
			3.The cumulative				
			test is carried out				
			twice, assessing				
			all relevant				
			indicators				
			through a written				
			exam, averaged				
			and given a weight of 2.				
			4.Assessment of				
			RPP products				
			and learning				
			tools other than				
			those displayed				
			in peer teaching,				
			is considered an				
			assignment, the				
			scores are				
			averaged, then				
			given a weight				
			(3)				
			5.3x Performance				
			Scores during				
			peer teaching				
			plus 2x grades				
			for RPP				
			averaged as				
			UAS scores,				
			given a weight of				
			(3)				
			6.The final NA is				
			(participation				
			value x2)				
			(assignment				
			value x 3) (UTS				
			value x 2) UAS				
			value (3) divided				
			by 10				
			Forme of				
			Forms of				
			Assessment :				
			Participatory				
			Activities, Project Results Assessment /				
			Product Assessment				
L			1	1	1	1	

13 Develop PBL and PJBL learning tools for relevant topics Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources Criteria: Workshop Material: F and PJBL is carried out on the following aspects: 2.Participation during lectures and peer teaching is carried out through observation (weight 2). Develop PBL and yax 50 Material: F and PJBL is carried out on the following ax50	odels orahim,
for relevant topics characterized by skillfully developing tools using various relevant learning sources 2.Participation during lectures and peer teaching is carried out on the following surces 2.Participation during lectures and peer teaching is carried out during various aspects: 2.Participation during lectures and peer teaching is carried out through observation	orahim,
tools using various relevant learning sources 2.Participation during lectures and peer teaching is carried out through observation	orahim,
tools using various relevant learning sources 2.Participation during lectures and peer teaching is carried out through observation	
relevant learning sources 2.Participation during lectures and peer teaching is carried out through observation	
Learning II during lectures and peer teaching is carried out through observation	
and peer Edition. and peer Surabaya: teaching is University carried out through observation Observation	
and peer Surabaya: teaching is University carried out through observation Observation	
teaching is University carried out through observation	
carried out through observation	Drago
through observation	-1622
observation	
(WEIGHT Z).	
3.The cumulative	
test is carried out	
twice, assessing	
all relevant	
indicators	
through a written	
exam, averaged	
and given a	
weight of 2.	
4.Assessment of	
RPP products	
and learning	
tools other than	
those displayed	
in peer teaching,	
is considered an	
assignment, the	
scores are	
averaged, then	
given a weight	
(3)	
5.3x Performance	
Scores during	
peer teaching	
plus 2x grades	
for RPP	
averaged as	
UAS scores,	
given a weight of	
6.The final NA is	
(participation	
value x2)	
(assignment	
value x 3) (UTS	
value x 2) UAS	
value (3) divided	
by 10	
Forme of	
Forms of Accossment	
Assessment : Participatory	
Activities, Project	
Results Assessment /	
Product Assessment	

	1				1	
14	 Understanding learning characteristics (TPACK) Explaining the characteristics of learning devices (TPACK) Explain the steps for learning using learning (TPACK) 	 Explain the characteristics of TPACK learning Explain the theory that supports TPACK Learning Explain the characteristics of TPACK devices Explain the steps for learning the TPACK model Develop TPACK learning tools for relevant topics 	 Criteria: The assessment is carried out on the following aspects: Participation during lectures and peer teaching is carried out through observation (weight 2). The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) Sax Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) The final NA is (participation value x2) (assignment value x3) (UTS value x 3) (UTS value x 2) UAS value (3) divided by 10 	Presentation, Discussion and reflection Modeling, observation and reflection 3 X 50	Material: TPACK Learning Model (technology, pedagogy, and content, knowledge)References: Arends, Richard l. 2012. Learning To Teach sixth Edition. New York: McGraw- Hill Book Company.Material: TPACK Learning Model (technology, pedagogy, and content, knowledge)References: Nur, Mohammad. 2000. Cooperative Learning. Surabaya: School Science and Mathematics Center.	0%

15		Criteria: 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 Forms of Assessment : Participatory Activities, Project	Presentation, discussion, reflection modeling and observation and reflection 3 X 50	Material: TPACK Learning Model (technology, pedagogy, and content, knowledge) References: Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw- Hill Book Company. Material: TPACK Learning Model (technology, pedagogy, and content, knowledge) References: Nur, Mohammad. 2000. Cooperative Learning. Surabaya: School Science and Mathematics Center.	0%
16	UAS	Results Assessment / Product Assessment	UAS		0%
		test multiple choice and essay	2 x 50		

Evaluation Percentage Recap: Project Based Learning No Evaluation Percentage 0%

Notes

- 1. Learning Outcomes of Study Program Graduates (PLO Study Program) are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- The PLO imposed on courses are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
 Program Objectives (PO) are abilities that are specifically described from the PLO assigned to a course, and are specific to the
- study material or learning materials for that course.
- 4. Subject Sub-PO (Sub-PO) is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. Indicators for assessing abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities or performance of student learning outcomes accompanied by evidence.
- 6. Assessment Criteria are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be guantitative or gualitative.
- 7. Forms of assessment: test and non-test.

- 8. Forms of learning: Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field

- Forms of learning: Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
 Learning Methods: Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
 Learning materials are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
 The assessment weight is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
 TM=Face to face, PT=Structured assignments, BM=Independent study.