

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

Document Code

SEMESTER LEARNING PLAN

Courses			CODE		С	ourse	e Farr	nily		С	redit	Weigh	t	SE	MEST	ER	Cor	npilati	on
School Currie	culum		8420202004		-	ompu	Isony	Study	,	- -	=2 P	-0 50	275=3.18	2	3		Dat	e / 17_20	124
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AUTHORIZA	ION		Dr. Endah Bu M.Pd; Ahmad	3udi Rahaju, M.Pd; Dr. Ismail, ad Wachidul Kohar, M.Pd.					D	Dr. Endah Budi Rahaju, M.Pd.									
Learning model	Case Studies		I											1					
Program	PLO study prog	gram t	that is charge	ed to the c	ours	se													
Learning Outcomes	PLO-5	Demo	onstrate a scier	ntific, critica	l and	l innov	vative	attitu	de in te	eachi	ng and	d learn	ing mathe	ematio	cs and	profes	sional	tasks	
(PLO)	Program Object	tives	(PO)																
	PO - 1	Able t and a	to demonstrate nalysis of the s	knowledge school math	and emai	insigl tics cເ	ht into urricul	o curri um	culum	conc	epts, c	levelo	oment of t	he so	chool r	nathem	natics o	curriculu	um,
	PO - 2	Able secon	to design strat idary schools (egies to ov SMP/SMA/	rerco SMK	me m) by u	ather tilizing	natica g ICT	l misc	once	ptions	in the	form of	learni	ing tra	jectorie	s for l	earning	j in
	PO - 3	Able t learni	to evaluate the ng in secondar	design of s y schools (trate SMP/	gies t /SMA	o ove /SMK)	rcome) by u	e math tilizing	emat ICT	ical mi	sconc	eptions in	the f	orm of	learnir	ıg traje	ctories	for
	PO - 4	Able writing	to communicat g	e ideas an	d res	search	n resu	ılts re	lated t	o the	scho	ol mat	hematics	currio	culum	effectiv	ely or	ally and	1 in
	PO - 5	Able which	to make decis are the studer	ions based nt's respons	on ibility	data/i / and	nform evalu	ation ating	in cor the wo	npleti rk tha	ing tas at has	sks rel been d	ated to tl lone.	he so	chool r	nathen	natics	curricul	um
	PO - 6	Able stude mathe	to demonstrate nt misconception	e a scientif ions, as w g in junior h	ic, ci ell a ligh s	ritical s des	and signing //high	innov g and schoo	ative a l evalu	attitud Jating Itiona	le in a g strat Lscho	analyzi egies ol	ng the so for overc	chool comin	mathe g stud	ematics dent m	s currio isconc	culum a eptions	and in
	PLO-PO Matrix																		
			PO	ВО	5														ļ
			F.0	FLO-	.5	_													
			P0-1			_													
			PO-2																
			PO-3																
			PO-4																
			PO-5																
			PO-6																
	PO Matrix at th	e end	of each learr	ning stage	(Su	b-PO)												
		_																	
			P.0								Wee	k							
				1 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		PC	D-1																
		PC	D-2																
		PC	D-3																
		PC	D-4																
		PC	D-5																
		PC	D-6																
			I								•								
Short Course Description	Studying the mea and previous cu strategies to ove based learning.	aning o rricula rcome	f curriculum, th and their suita mathematics r	ne developn ability for le nisconcepti	nent earni ons i	of sch ng, ci in sec	nool m urricu condai	nather lum a ry sch	natics Inalysis Iools (:	currio s whi SMP/	cula in ich ind /SMA/:	Indon cludes SMK)	esia and task and by utilizin	other I mat g ICT	count terial a throu	ries req analysis gh tas	jarding s, and k and (the lat design discuss	iest ling lion

Referen	ces Main:								
	1. Dokumer	n kurikulum matemat	ika sekolah Kementerian	Pendidikan dan I	Kebudayaan				
	Supporters:								
	 Ibrahim, Sukmadi Hamdani Goos, M Australia Yee, Lee Buku Gu Artikel ju 	dkk. 2013. Kurikulum nata, Nana Syaodih. , Hamid. 2012. Peng ., Stillman, G., Vale, : Allen & Unwin. Peng. 2006. Teachi ru dan Buku Siswa F rnal terkait kurikulum	 kurikulum dan Pembelajaran. Jakarta: Rajarafindo Persada. ata, Nana Syaodih. 2013. Pengembangan Kurikulum. Bandung: Remaja Rosdakarya. Hamid. 2012. Pengembangan Kurikulum Pendidikan. Bandung: Pustaka Setia. Stillman, G., Vale, C. 2007. Teaching Secondary School Mathematics Reasearch and Practice for the 21st Centure Allen & Unwin. Peng. 2006. Teaching Secondary School Mathematics a Resource Book. McGraw-Hill. I dan Buku Siswa Pelajaran Matematika SMP, SMK, dan SMA /sederajat al terkait kurikulum matematika sekolah 						
Support lecturer	ing Dr. Endah Budi R Dr. Siti Khabibah Abdul Haris Rosy Ahmad Wachidul	ahaju, M.Pd. , M.Pd. idi, S.Pd., M.Pd. Kohar, S.Pd., M.Pd.							
Week-	Final abilities of each learning		aluation	Hel Learn Studen [Est	p Learning, ing methods, t Assignments, <mark>imated time]</mark>	Learning materials	Assessment Weight (%)		
	(Sub-PO)	Indicator	Criteria & Form	Offline(offline)	Online (<i>online</i>)	[References]			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
1	 1.1. Understand the meaning, function and role of the school curriculum 2.2. Communicate ideas related to the meaning, function and role of the school curriculum 3.3. Make decisions based on data/information in completing tasks related to the meaning, function and role of the school curriculum 4.4. Demonstrate a scientific, critical and innovative attitude in analyzing the meaning, function and role of the school curriculum 	1. Explain the meaning, function and role of the school curriculum based on the current or previous curriculum in Indonesia.	Criteria: accuracy in explaining the meaning, function and role of the curriculum in Indonesia Form of Assessment : Participatory Activities	Collaborative approach (discussion and expository) 2 x 50 minutes		Material: Definition, essence and function of the school curriculum Reference: <i>Ibrahim, et al.</i> 2013. Curriculum and Learning. Jakarta: Rajarafindo Persada. Material: Definition, essence and function of the school curriculum Reader: Sukmadinata, Nana Syaodih. 2013. Curriculum Development. Bandung: Rosdakarya Youth. Material: Definition, essence and function of the school curriculum Reader: Hamdani, Hamid. 2012. Educational Curriculum Development. Bandung: Reader:	2%		

2	 1.1. Understand the foundations, components and principles of curriculum development 2.2. Communicate ideas related to components and principles of curriculum development 3.3. Make decisions based on data/information in completing tasks related to components and principles of curriculum development 4.4. Demonstrate a scientific, critical and innovative attitude in analyzing components and principles of curriculum development 	 1.1. Explain the basis for curriculum development. 2.2. Explain the components of curriculum development. 3.3. Explain the principles of curriculum development 	Criteria: Explains the foundations, components and principles of curriculum development in Indonesia Form of Assessment Project Results Assessment / Product Assessment	Collaborative approach (discussion and expository) regarding the foundations, components and principles of curriculum development after students search from several sources 2 x 50 minutes		Material: Principles of curriculum analysis based on various sources References: Ibrahim, et al. 2013. Curriculum and Learning. Jakarta: Rajarafindo Persada. Material: Principles of curriculum analysis based on various sources. Reference: Sukmadinata, Nana Syaodih. 2013. Curriculum Development. Bandung: Rosdakarya Youth. Material: Principles of curriculum analysis based on various sources. Reference: Hamdani, Hamid. 2012. Educational Curriculum Development. Bandung: Pustaka Setia.	2%
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3	1.1. Understand	1.Explain the	Criteria:	Collaborative	Material:	2%
3	 1.1. Understand the development of the school mathematics curriculum 2.2. Communicate ideas related to the development of the school mathematics curriculum 3.3. Make decisions based on data/information in completing tasks related to the development of the school mathematics curriculum 4.4. Demonstrate a scientific, critical and innovative attitude in analyzing developments in the school mathematics curriculum 	 Explain the development of the school mathematics curriculum Explains the development of the school mathematics curriculum in Indonesia 	Criteria: 1.Explains the development of the school mathematics curriculum, maximum up to the independent curriculum 2.Identify the differences between each curriculum in Indonesia Form of Assessment Project Results Assessment / Product Assessment	Collaborative approach (discussion and expository) regarding the development of the school mathematics curriculum in Indonesia 2 x 50 minutes	Material: development of the school mathematics curriculum in Indonesia Reference: Ministry of Education and Culture's school mathematics curriculum document Material: development of the school mathematics curriculum in Indonesia Library: Teacher's Books and Student Books for Middle School, Vocational School, and High School, a	2%
					Library: Material: development of the school mathematics curriculum in Indonesia.	
					Reference: Journal articles related to the school mathematics curriculum	

4	 1.1. Analyze the curriculum, including competency and material analysis 2.2. Communicate ideas related to the curriculum, including competency and material analysis 3.3. Make decisions based on data/information in completing curriculum-related tasks, including competency and material analysis 4. 4. Demonstrate a scientific, critical and innovative attitude in analyzing the curriculum, including competency and material analysis 	Analyzing the 1994, 2006, 2013 mathematics curriculum and the independent curriculum including competency and material analysis	Criteria: 1.Analyzing competencies and materials in the 1994, 2006, 2013 mathematics curriculum and the independent curriculum 2.analyze the similarities and differences of the last four curricula used in Indonesia Form of Assessment Froject Results Assessment / Product Assessment	Collaborative approach (discussion and expository) regarding competency analysis and school mathematics curriculum materials in Indonesia 2 x 50 minutes	Material: development of the school mathematics curriculum in Indonesia Reference: <i>Ministry of</i> <i>Education and</i> <i>Culture's school</i> <i>mathematics</i> <i>curriculum</i> <i>document</i> Material: development of the school mathematics curriculum in Indonesia Library: <i>Teacher's Books</i> <i>and Student</i> <i>Books for Middle</i> <i>School, and High</i> <i>School, 2013</i> mathematics <i>Lessons</i> Material: Competency analysis in the 1994, 2006, 2013 mathematics <i>curriculum</i> . Reference: <i>Journal articles</i> <i>related to the</i> <i>school</i> <i>mathematics</i> <i>curriculum</i> .	2%
5	 1.1. Analyze school mathematics curricula in other countries 2.2. Communicate ideas related to school mathematics curriculum in other countries 3.3. Make decisions based on data/information in completing tasks related to the school mathematics curriculum in other countries 4.4. Demonstrate a scientific, critical and innovative attitude in analyzing school mathematics curricula in other countries 	Analyzing the school mathematics curriculum of Singapore, Australia, Finland, the Netherlands, the United States	Criteria: 1.Analyze the school mathematics curriculum according to the sections assigned to each group 2.Each group analyzed the school curriculum of the two countries that had been determined at the previous meeting Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Collaborative approach (discussion and expository) based on project results carried out in groups of 2 x 50 minutes	Material: School mathematics curriculum in other countries References: Goos, M., Stillman, G., Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin. Material: School mathematics curriculum in other countries References: Yee, Lee Peng. 2006. Teaching Secondary School Mathematics a Resource Book. McGraw-Hill. Material: Mathematics	2%

6	1.1 Comparing	1.1	Criteria:	Through a	Material:	5%
	school	Comparing	1 Pay attention to	project	Analysis of	
	mathematics	the	the similarities	approach.	school	
	mainematics	une .		students	mathematics	
	curricula in	Indonesian	and differences	compare the	curricula in	
	Indonesia and	Mathematics	in school	compare me	Indonasia and	
	abroad	curriculum,	curricula in two	SCHOOL	indonesia and	
	2.2	2013	selected foreign	mathematics	abroad	
	Communicate	curriculum	countries	curricula of two	References:	
	communicate		2 Determine the	selected	Goos, M.,	
	ideas regarding	and overseas	2.Determine the	countries. The	Stillman, G.,	
	comparisons of	(Singapore,	similarities and	project results	Vale, C. 2007.	
	school	Australia,	differences in	are discussed	Teaching	
	mathematics	Finland, the	school curricula	together	Secondary	
	curricula in	Nothorlands	in Indonesia and	2 y E0 minutos	School	
	Indenseis and	Amorica)	two colocted	2 X JU Minutes	Mathematica	
	indonesia and	America)	two selected		Mainemalics	
	abroad	2.Comparing	foreign countries		Research and	
	3.3. Make	the			Practice for the	
	decisions based	Indonesian	Forms of		21st Century.	
	on	Mathematics	Assessment :		Australia: Allen &	
	data/information	curriculum	Participatory Activities,		Unwin.	
	in completing	the 2012	Project Results			
	in completing	ine 2013	Assessment / Product		Material	
	assignments	curriculum,	Assessment		Analycia of	
	related to	the	,		Analysis of	
	comparisons of	independent			school	
	school	curriculum			mathematics	
	mathematics	and the			curricula in	
					Indonesia and	
	cumcula in	SCHOOL			abroad	
	Indonesia and	curricula of			References:	
	abroad	two other			Yee, Lee Pena.	
	4.4. Demonstrate	countries			2006 Teaching	
	a scientific	assigned at			Secondary	
	critical and	tho 5th			Secondary	
		ule sul			School	
	innovative	meeting			Mathematics a	
	attitude in				Resource Book.	
	analyzing				McGraw-Hill.	
	comparative					
	school				Material:	
	mothematica				Analysis of	
	mathematics				Analysis U	
	curricula in				SCHOOL	
	Indonesia and				mathematics	
	abroad				curricula in	
					Indonesia and	
					abroad.	
					Library:	
					Teacher's Books	
					and Student	
					BOOKS TOR MIDDLE	
					School,	
					Vocational	
					School and High	
					School/equivalent	
					Mathematics	
					Lessons	
					200000	
					Material: School	
					mathematics	
					curriculum in the	
					2013 Curriculum	
					and the	
					anu une	
					independent	
					curriculum.	
					Reference:	
					Ministry of	
					Education and	
					Culture's school	
					mathematics	
					ourrioulum	
					curriculum	
					aocument	

7	 1.1. Analyze the content standards of the junior high school mathematics curriculum for learning 2.2. Communicate ideas related to essential conceptions and misconceptions about junior high school 	Analyzing the applicable junior high school mathematics curriculum content standards (2013 and/or independent curriculum).	Criteria: Examining the standard content of the junior high school mathematics curriculum in the 2013 Curriculum and the Merdeka Curriculum Form of Assessment : Project Results Assessment / Product Assessment	Through group project assignments, students discuss and collaborate on the content standards of the 2 x 50 minute junior high school mathematics curriculum	Material: 2013 junior high school mathematics curriculum content standards or independent curriculum Reference: <i>Ministry of</i> <i>Education and</i> <i>Culture school</i> <i>mathematics</i> <i>curriculum</i> <i>documents</i> Material: Content	2%
	material 3.3. Make decisions based on data/information in completing assignments related to essential concepts and misconceptions about junior high school mathematics material 4.4. Demonstrate a scientific, critical and				2013 junior high school mathematics curriculum or independent curriculum. Reference: <i>Goos, M.,</i> <i>Stillman, G.,</i> <i>Vale, C. 2007.</i> <i>Teaching</i> <i>Secondary</i> <i>School</i> <i>Mathematics</i> <i>Research and</i> <i>Practice for the</i> <i>21st Century.</i> <i>Australia: Allen &</i> <i>Unwin.</i>	
	innovative attitude in analyzing essential concepts and misconceptions about junior high school mathematics material				Material: Content standards for the 2013 junior high school mathematics curriculum or independent curriculum Reader: Yee, Lee Peng. 2006. Teaching Secondary School Mathematics a Resource Book. McGraw-Hill.	
					Material: Content standards for the 2013 junior high school mathematics curriculum or independent curriculum Library: Teacher's books and student books for mathematics lessons for middle school, vocational school and high	
					Material: Middle School Mathematics Curriculum Documents in the 2013 Curriculum and Independent Curriculum Literature: Ministry of Education and Culture School Mathematics Curriculum Documents	

8	UTS	1.UTS 2	Criteria: 1.UTS 2	UTS write 2 x 50 minutes	Material: - Library:	20%
			Form of Assessment			
			: Test			
9	 1.1. Find essential concepts and misconceptions about junior high school mathematics material 2.2. Communicate ideas related to essential concepts and misconceptions about junior high school mathematics material 3.3. Make decisions based on data/information in completing assignments related to essential concepts and misconceptions about junior high school mathematics material 4.4. Demonstrate a scientific, critical and innovative attitude in analyzing essential concepts and misconceptions about junior high school mathematics material 5. Designing strategies to overcome mathematics misconceptions in the form of learning trajectories for junior high school mathematics learning by utilizing ICT 6.6. Evaluate the design of strategies to overcome mathematical misconceptions in junior high school 	essential concepts at junior high school level	: Test Criteria: Discovering essential concepts at junior high school level, along with the rationale for selecting essential concepts Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Based on project assignments given in groups, students discuss essential concepts and misconceptions about junior high school mathematics material 2 x 50 minutes	Material: Essential concepts in junior high school mathematics mathematics mathematics curriculum or the independent curriculum or the independent curriculum Reference: Ministry of Education and Culture school mathematics curriculum documents Material: Essential concepts in junior nigh school mathematics curriculum or the independent curriculum. Reference: Goos, M., Stillman, G., Vale, C. 2007. Feaching Secondary School Mathematics urriculum. Reference: Goos, M., Stillman, G., Vale, C. 2007. Feaching Secondary School Mathematics	3%
					vocational school and high school/equivalent	

10	1.1. Find	find	Criteria:	Based on	Material:	5%
	essential	at junior high	The correspondence between	project	Essential	
	concepts and	school level	misconceptions and	given in	high school	
	about junior	2013 curriculum	them	groups,	mathematics	
	high school	and/or the		students	material	
	mathematics	curriculum and	Forms of	essential	2013	
	material	how to	Participatory Activities.	concepts and	mathematics	
	Z.Z. Communicate	misconceptions	Project Results	misconceptions	curriculum or the	
	ideas related to		Assessment / Product	about junior	Independent	
	essential		Assessment	mathematics	Reference:	
	concepts and			material	Ministry of	
	misconceptions			2 x 50 minutes	Education and	
	high school				mathematics	
	mathematics				curriculum	
	material				documents	
	3.3. Make				Motorial	
	decisions based				Essential	
	data/information				concepts in junior	
	in completing				high school	
	assignments				mathematics	
	related to				according to the	
	essential				2013	
	misconceptions				mathematics	
	about junior				independent	
	high school				curriculum.	
	mathematics				Reference:	
	4.4. Demonstrate				Stillman. G	
	a scientific,				Vale, C. 2007.	
	critical and				Teaching	
	innovative				Secondary	
	attitude in				Mathematics	
	essential				Research and	
	concepts and				Practice for the	
	misconceptions				Australia: Allen &	
	about junior				Unwin.	
	nign school mathematics					
	material				Material:	
	5.5. Designing				concepts in junior	
	strategies to				high school	
	overcome				mathematics	
	misconceptions				material according to the	
	in the form of				2013	
	learning				mathematics	
	trajectories for				curriculum or the	
	junior high				curriculum	
	mathematics				Reader: Yee,	
	learning by				Lee Peng. 2006.	
	utilizing ICT				Secondarv	
	6.6. Evaluate the				School	
	uesign of				Mathematics a	
	overcome				Resource Book. McGraw-Hill	
	mathematical					
	misconceptions				Material:	
	in junior high				Essential	
	mathematics				high school	
	learning				mathematics	
	-				material	
					according to the	
					mathematics	
					curriculum or the	
					independent	
					curriculum	
					Teacher's book	
					and student book	
					for mathematics	
					vocational school	
					and high	
					school/equivalent	

			1	1		T
11	 1.1. Understand and analyze the content standards for high school and vocational mathematics curricula 2.2. Communicate ideas related to high school and vocational mathematics curriculum content standards 3.3. Make decisions based on data/information in completing tasks related to high school and vocational mathematics curriculum content standards 	Analyze the applicable high school or vocational school mathematics curriculum content standards.	Criteria: Analyze the applicable high school or vocational school mathematics curriculum content standards. Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Based on the results of the group project, students discuss the standard content of the 2013 SMA/SMK mathematics curriculum and/or the independent curriculum. 2 x 50 minutes	Material: 2013 high school and vocational high school mathematics curriculum content standards or independent curriculum References: Ministry of Education and Culture school mathematics curriculum documents Material: 2013 high school and vocational school mathematics curriculum content standards or independent curriculum. References: Goos, M., Stillman, G., Vale, C. 2007	5%
	4.4. Demonstrate a scientific, critical and innovative attitude in analyzing high school and vocational methomation				Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin.	
	mathematics curriculum content standards				Material: 2013 high school and vocational school mathematics curriculum content standards or independent curriculum. Reference: Yee, Lee Peng. 2006. Teaching Secondary School Mathematics a Resource Book. McCraw-Hill.	
					Material: 2013 high school and vocational school mathematics curriculum content standards or independent curriculum. Library: Teacher's Books and Student's Books for Middle School, Vocational School, and High School Mathematics / equivalent	

r							
	12	1.1. Find	Analyzing	Criteria:	Based on the	Material: 2013	5%
		essential	school level	Analyzing essential	results of the	high school and	
		concepts and	concepts in the	concepts in the	group project,	vocational high	
		misconceptions	applicable	applicable	students	school	
		about high	mathematics	mathematics	discussed the	mathematics	
		school	curriculum.	curriculum and their	2013 high	curriculum	
		mathematics		rationale	school and	content	
		material			vocational	standards or	
		2.2.		Forms of	SCHOOL	independent	
		Communicate		Assessment	mathematics	curriculum	
		ideas related to		Participatory Activities,	curriculum	References:	
		occontial		Project Results	content	Ministry of	
				Assessment / Product	stanuarus or		
		concepts and		Assessment	independent	Culture School	
		misconceptions			independent	mainematics	
		about nigh			2 v E0 minutos	documente	
		school			2 x 30 minutes	uocuments	
		mathematics				Matarial: 0010	
		material				Material: 2013	
		3.3. Make				nign school and	
		decisions based				vocational school	
		on				mainematics	
		data/information				cumculum	
		in completing				standards or	
		assignments				indopondont	
		related to				curriculum	
		essential				Deferences	
		concepts and				Goos M	
		misconceptions				Stillman G	
		about high				$V_{ala} \subset 2007$	
		school				Teaching	
		mathematics				Secondary	
		material				School	
		4 1 Demonstrate				Mathematics	
		- a sciontific				Research and	
		a scientific,				Practice for the	
		chilical anu				21st Century	
		innovative				Australia: Allen &	
		attitude in				Unwin	
		analyzing					
		essential				Matorial: 2012	
		concepts and				high school and	
		misconceptions				vocational school	
		about high				mathematics	
		school				curriculum	
		mathematics				content	
		material				standards or	
		5.5. Designing				independent	
		strategies to				curriculum	
		overcome				Reference: Yee	
		mathematics				Lee Pena 2006	
		misconcentions				Teaching	
		in the form of				Secondary	
		learning				School	
		traiectories for				Mathematics a	
		high school				Resource Book	
ļ		methometics				McGraw-Hill.	
		Induiematics					
		learning by				Material: 2013	
						high school and	
		0.6. Evaluate the				vocational school	
		design of				mathematics	
		strategies to				curriculum	
		overcome				content	
		mathematical				standards or	
		misconceptions				independent	
		in high school				curriculum.	
		mathematics				Library:	
		learning				Teacher's Books	
ļ		U U				and Student's	
						Books for Middle	
						School,	
						Vocational	
						School, and Hiah	
						School	
ļ						Mathematics /	
						equivalent	
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	1	1	r	1	1		
13	1.1. Find	Analyzing	Criteria:	Based on the		Material: 2013	5%
	essential	misconceptions	Analyzing	results of the		high school and	
	concents and	at high school	misconceptions and	aroup project.		vocational high	
	concepts and	level in the	how to overcome	students		school	
	misconceptions	applicable	them at high school	discussed		mathematics	
	about high	curriculum	level in the	misconceptions		curriculum	
	school	cumculum.	applicable	and how to		content	
	mathematics		curriculum and how	overcome them		standards or	
	material		to overcome them	overcome mem		independent	
	2.2.		to overcome them	at high school		ourrioulum	
	Communicate		Form of Assossment	level in the			
	ideas related to		·	2013		References:	
	Ideas Telated to		Droiget Deculte	mathematics		Ministry of	
	essential		Project Results	curriculum		Education and	
	concepts and		Assessment / Product	and/or the		Culture school	
	misconceptions		Assessment	independent		mathematics	
	about high			curriculum.		curriculum	
	school			2 x 50 minutes		documents	
	mathematics						
	material					Material: 2013	
	3.3 Make					high school and	
	docisions based					vocational school	
	uecisions based					mathematics	
	ON CONTRACTOR					curriculum	
	data/information					content	
	in completing					standards or	
	assignments					independent	
	related to					ourrigulum	
	essential					Curriculum.	
	concepts and					References:	
	misconcentions					GOOS, M.,	
	about high					Stillman, G.,	
	about high					Vale, C. 2007.	
	school					Teaching	
	mathematics					Secondary	
	material					School	
	4.4. Demonstrate					Mathematics	
	a scientific,					Research and	
	critical and					Practice for the	
	innovative					21st Century.	
	attitudo in					Australia: Allen &	
	analyzing					Unwin.	
	analyzing						
	essential					Matorial: 2012	
	concepts and					high school and	
	misconceptions					high school and	
	about high					vocational school	
	school					mainematics	
	mathematics					curriculum	
	material					content	
	5.5 Designing					standards or	
	stratogios to					independent	
	Strategies to					curriculum.	
	overcome					Reference: Yee,	
	mathematics					Lee Peng. 2006.	
1	misconceptions					Teaching	
1	in the form of					Secondary	
1	learning					School	
	trajectories for					Mathematics a	
	high school					Resource Book.	
	mathematics					McGraw-Hill.	
1	loarning by					p	
1						Material: 2013	
						high school and	
	6.6. Evaluate the					vocational school	
1	design of					mathematica	
	strategies to					ourrigulum	
	overcome					contort	
	mathematical					standarda ar	
	misconcentions					sidiluarus or	
1	in high school					maepenaent	
	mathamatica					curriculum.	
	mainematics					Library:	
	learning					Teacher's Books	
1						and Student's	
						Books for Middle	
1						School,	
1						Vocational	
1						School, and High	
1						School	
1						Mathematics /	
1						equivalent	
1						·	

14	1.1. Find	Analyzing	Criteria:	Based on the		Material: 2013	5%
	essential	misconceptions	Analyze the	results of the		high school and	
		at high school	essential concepts	aroun project		vocational high	
	concepts and	level in the	and rationale for	students		school	
	misconceptions	applicable	vocational school	discussed the		mathematica	
	about	mathematics	level in the	discussed the		mainematics	
	vocational	curriculum.	applicable	essential		curriculum	
	school		mathematics	concepts of		content	
	SCHOOL		curriculum	vocational		standards or	
	mathematics			school level in		independent	
	material		Form of Assessment	the 2013		curriculum	
	2.2.			mathematics		Deferences:	
	Communicate		Draiget Degulte	mainematics		References.	
	Communicate		Project Results	curriculum		Ministry of	
	ideas related to		Assessment / Product	and/or the		Education and	
	essential		Assessment	independent		Culture school	
	concepts and			curriculum.		mathematics	
	misconceptions			2 x 50 minutes		curriculum	
	about					documents	
	about					documento	
	vocational						
	school					Material: 2013	
	mathematics					high school and	
	material					vocational school	
						mathematics	
	3.3. Make					mainematics	
	decisions based					curriculum	
	on					content	
	data/information					standards or	
	uala/information					independent	
	in completing		1			curriculum	
1	assignments		1		1	References	
1	related to		1		1	Coop M	
	essential					G00S, M.,	
	essential					Stillman, G.,	
	concepts and					Vale, C. 2007.	
	misconceptions					Teaching	
	about					Secondary	
	vocational					School	
	vocational					Mathematica	
	school					Mainemalics	
	mathematics					Research and	
	material					Practice for the	
	4.4 Demonstrate					21st Century.	
	a sojontifio					Australia: Allen &	
	a scientinic,					Unwin	
	critical and					Olimin.	
	innovative						
	attitude in					Material: 2013	
	analyzing					high school and	
	analyzing					vocational school	
	essential					mathematics	
	concepts and					curriculum	
	misconceptions					content	
	about					content	
	uppetianal					standards or	
	vocational					independent	
	school					curriculum.	
	mathematics					Reference: Yee,	
	material					Lee Pena 2006	
	5.5 Designing					Teaching	
	J.J. Designing					Casardami	
	strategies to		1			Secondary	
	overcome		1			School	
	mathematics		1			Mathematics a	
	misconcentions		1			Resource Book.	
	in the form of		1			McGraw-Hill.	
1			1		1		
	learning		1			Material 2010	
1	trajectories for		1		1	material: 2013	
	high school		1			high school and	
1	mathematics		1		1	vocational school	
	log		1			mathematics	
	learning by		1			curriculum	
	utilizing ICT				1	content	
	6.6. Evaluate the		1			standarda ar	
	design of				1	stanuarus or	
	atroto-i t-		1			independent	
	strategies to		1			curriculum.	
	overcome		1			Library:	
	mathematics		1			Teacher's Books	
	misconcentions		1			and Student's	
1	invocational		1			Booke for Middl-	
	in vocational		1			DOUKS IUT MIDDLE	
	school		1			School,	
	mathematics		1			Vocational	
	learning				1	School, and High	
			1			School	
			1			Mathematics /	
			1			Aquivalant	
1						cyuwalent	

15	 1.1. Find essential concepts and misconceptions about vocational school mathematics material 2.2. Communicate ideas related to essential concepts and misconceptions about vocational school mathematics material 3.3. Make decisions based on data/information in competing assignments related to essential concepts and misconceptions about vocational school mathematics material 4.4. Demonstrate a scientific, critical and innovative attitude in	Analyzing misconceptions and how to overcome them for vocational school level in the applicable mathematics curriculum.	Criteria: Analyze the essential concepts and rationale for vocational school level in the applicable mathematics curriculum Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Based on the results of the group project, students discussed misconceptions and how to overcome them for the vocational school level in the 2013 mathematics curriculum and/or the independent curriculum. 2 x 50 minutes	Material: 2013 high school and vocational high school mathematics curriculum content standards or independent curriculum References: Ministry of Education and Culture school mathematics curriculum documents Material: 2013 high school and vocational school mathematics curriculum content standards or independent curriculum. References: Goos, M., Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin. Material: 2013	5%
	analyzing essential concepts and misconceptions about vocational school mathematics material 5.5. Designing strategies to overcome				high school and vocational school mathematics curriculum content standards or independent curriculum. Reference: Yee, <i>Lee Peng.</i> 2006. <i>Teaching</i> <i>Secondary</i> <i>School</i>	
	mathematics misconceptions in the form of learning trajectories for high school mathematics learning by utilizing ICT 6.6. Evaluate the design of strategies to overcome mathematics misconceptions in vocational school mathematics learning				Mathematics a Resource Book. McGraw-Hill. Material: 2013 high school and vocational school mathematics curriculum content standards or independent curriculum. Library: Teacher's Books and Student's Books for Middle School, Vocational School, and High School Mathematics / equivalent	
16	1.UAS 2	UAS	Criteria: 1.UAS 2 Form of Assessment : Project Results Assessment / Product Assessment	Written test 2 X 50 MINUTES	Material: Essential concepts in middle/high school/vocational school mathematics material according to the 2013 mathematics curriculum or the independent curriculum. Reference: Goos, M., Stillman, G.,	30%

I	1	1	l	1	1	1	Vala C 2007	1
							Teaching Secondary School Mathematics Research and Practice for the 21st Century . Australia: Allen &	
							Material: Essential concepts in	
							school/vocational school mathematics material according to the	
							mathematics curriculum or the independent curriculum. Reader: Yee, Lee Peng. 2006	
							Teaching Secondary School Mathematics a Resource Book. McGraw-Hill	
							Material: Essential concepts in middle school/high	
							school/vocational school mathematics material according to the 2013	
							mathematics curriculum or independent curriculum Library: Teacher's books	
							and student books for middle school, vocational school and high	
							Material: Essential	
							middle school/high school/vocational school mathematics material	
							according to the 2013 mathematics curriculum or the independent curriculum.	
							Reference: Ministry of Education and Culture school	
							mathematics curriculum	

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	17%
2.	Project Results Assessment / Product Assessment	63%
3.	Test	20%
		100%

Notes

- 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.
- 2. 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.
- 3. **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 ability in the process and student learning outcomes are specific and measurable statements that identify the ability 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 quantitative or qualitative.
- 7. Forms of assessment: test and non-test.
- 8. 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.
- 10. Learning materials are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. 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%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.