
	MODULE DESCRIPTION THE BACHELOR IN PHARMACY STUDY PROGRAMME CHEMISTRY DEPARTMENT THE UNIVERSITY OF BENGKULU Basic Pharmaceutical					S1F-5
	Module Code: FRS-102	Credit Points (T/P): (2/1)	Semester: I	Course: Basic Pharmaceutical	The Coordinator of the Study Programme:	Authorization: 
	Preparation Date: 00	Last Amandement Date: -		Responsible Person: apt. Dwi Dominica.,S.Farm., M.Farm (DD) apt. Delia Komalasari.,S.Farm., M.Farm (DK)		

Intended Learning Outcome (ILO/CP)	ILO/CP-STUDY PROGRAMME : 1. (STN8)-Demonstrating a responsible attitude towards work in their area of expertise independently 2. (STN11)-Being able to be responsible for independent and group tasks; 3. (KU1) Being able to apply logical, critical, systematical, and innovative thinking in the development or implementation of science and technology that pays attention to and applies humanity values in accordance with their field of expertise; 4. (KU2) Being able to demonstrate independent, high-quality, and measurable performance; 5. (KU11) Being able to carry out individual tasks and group assignments; 6. (KU12) Being able to make decisions based on the information and data; 7. (KK10) Being able to analyse physical, chemical, physico-chemical, and biological parameters, medicinal materials and drug products; 8. (KK13) Being able to apply science and technology in the pharmaceutical research; 9. (P10) Being able to provide information on drugs and health treatment;
	CP-Module : 1. The students are expected to be careful, critical and thorough in calculating the prescription 2. Being able to take and handle received samples, using methods that are appropriate to the type and nature of the samples, demonstrating and maintaining the quality of the samples in good condition. 3. Being able to conduct an assessment of the sample feasibility using a method that is in accordance with the type and nature of the sample to show the quantity and quality of the sample in accordance with the requirements.

The learning process at the Bachelor in Pharmacy Study Programme includes Lectures, Practical Work and Final Projects. There are 6 documents related to lecture guidelines, namely CP, Syllabus, CP Map, RP, RE and UT					
S1F-1 : Intended Learning Outcomes of the Study Programme	S1F-2 : Course Detail	S1F-3 : Map of ILO-Course	S1F-4 : Lesson Plan	S1F-5 : Evaluation Plan	S1F-6 : Task Description

	<p>4. After studying this course, the students are expected to be able to master various methods of qualitative and quantitative chemical analysis using instrumentation, volumetry and gravimetry.</p> <p>5. Students are expected to be able to apply analytical chemistry theory in the research on laboratory and industrial scale.</p> <p>6. Being able to interpret the results correctly and have a creative and careful attitude in conducting examinations</p>
Short Description	The basic pharmaceutical course discusses past era drugs and their development and provides definitions of several terms in the Indonesian Pharmacopoeia; introduction to Latin as a prescription language; prescription abbreviations and formulate names for pharmaceutical compounds and dosage forms; preparation of prescriptions and application of Latin in prescribing; various forms of pharmaceutical preparations and administration methods; definition, preparation method of: Powders, Capsules, Tablets, Pills, Suppositories, Ointments, pastes, creams, gels, plasters, Solutions, Suspensions, Emulsions, Injections, Ophthalmic preparations, Vaccines, Immunoses, Tinctures, Extracts, and Infusions.
Module Content	<ol style="list-style-type: none"> 1. The first pharmacy 2. Terms in Indonesian Pharmacopoeia 3. Latin language 4. Declination I to V 5. Prescriptions and Copy prescriptions 6. Pharmaceutical dosage form and route of administration 7. Powder 8. Capsule 9. Tablet 10. Pill 11. Suppository 12. Ointments, pastes, creams, gels, 13. Solution 14. Suspension and emulsion 15. Injections, ophthalmic preparations 16. Tincture, Extract, infusion
Recommended Literatures	<p>Main Literatures :</p> <ol style="list-style-type: none"> 1. Anonim, 1979, Indonesian Pharmacopeia, ed. III, Depkes RI, Jakarta 2. Anonim, 1995, Indonesian Pharmacopeia, Ed. IV, The Department of Health the Republic of Indonesia, Jakarta. 3. Moch. Anief, 1987, Medicine Concocting Science, Gadjah Mada University Press, Yogyakarta 4. Moch. Anief, 1993, Pharmaceutical, Gadjah Mada University Press, Yogyakarta <p>Supporting Literatures :</p>

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	<ol style="list-style-type: none"> 1. The Ministry of Health of The Republic of Indonesia, 2019. National Formulary. The Directorate General of Pharmaceutical and Medical Device Services, The Ministry of Health of The Republic of Indonesia, Jakarta. 2. Marriot J.F, Keith A Wilson, CRISTHOPHER a Langley and Dawn Belcher, 2010. Pharmaceutical Compounding and Dispensing, Second edition, Pharmaceutical Press (PhP); London , UK. 3. Sumarsono T., 2019. The Introduction to Pharmaceutical Science. Medical Book Publisher EGC : Jakarta 4. Van Duin, C.F., 1954, The Handbook of Prescription Science in Practice and Theory, (translation) Rijksuniversiteit, Utrecht 5. Yuwono T. dan Joko Suyono , 2017. Latin for Pharmacy & Medicine. Medical Book Publisher EGC : Jakarta. 					
Planned use/applicability	Software : OS:Windows; Office Hardware : PC & LCD Projector; Automatic control system model;					
Team Teaching	apt. Dwi Dominica., S.Farm., M.Farm (DD) apt. Delia Komala Sari., S.Farm., M.Farm (DK)					
Admission Requirement						
Week	Sub-ILO/CP-Module	Indicator(s)	Assessment Types	Teaching Method(s) and Work Load [&Time Estimation]	Module Content [&Literature]	Assessment Percentage (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1. Being able to know past medicine and its development 2. Being able to provide definitions of several terms in the Indonesian Pharmacopoeia (STN8, STN11, KU1, KU2, KU10, KK10, P10)	<ul style="list-style-type: none"> • The accuracy in describing the development of medicine from the past. • The accuracy in explaining some terms in the Indonesian Pharmacopoeia 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(1x50")] • Reading Journal/Presentation slides [TM: 1 x (1x50")] 	<ul style="list-style-type: none"> • The first pharmacy • Ancient medicine • Introduction to scientific view • Solubility terms, container, storage temperature, expiration, contents expressed in percent (DepkesRI, 1979,), (DepkesRI, 1995,), (Sumarsono T., 2019)	3%

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2,3	<p>1. Being able to understand and master the introduction of Latin as a prescribing language</p> <p>2. Being able to explain prescription abbreviations and formulate names for pharmaceutical compounds and dosage forms</p> <p>(STN8, STN11, KU2, KU10, KU12, KK10)</p>	<p>The accuracy in explaining Latin word changes</p> <p>The accuracy in explaining the naming of drug ingredients and pharmaceutical preparations</p>	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion [TM: 2x(1x50")] 	<ul style="list-style-type: none"> • Latin as a scientific language • Latin word change • Word order in Latin sentences • Arrangement of nouns and adjectives • Relationship between nouns and adjectives Declination I to V • Naming of drug ingredients and pharmaceutical preparations • Numerals (<i>Adiectiva Numeralia</i> and <i>Adverb Numeralia</i>) <p>(Yuwono T. and Joko Suyono, 2017, page 9-44) (Moch. Anief, 1987 page 1)</p>	3%
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4	<p>1. Being able to understand the preparation of prescriptions and the application of Latin in prescribing</p> <p>(STN8, STN11, KU2, KU10, KU12, KK10, P1, P10)</p>	<ul style="list-style-type: none"> • The accuracy in explaining the appropriate and correct parts of the prescriptions • The accuracy in explaining the calculation of dosage • The accuracy in explaining the prescription copy • The accuracy in explaining the application of Latin in the prescriptions 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lectures & group discussions, • [TM: 1x(2x50")] • (Task-1: Mention the parts in a prescriptions in Latin) • (Task-2: Calculates the dose accurately and quickly). 	<ul style="list-style-type: none"> • Prescriptions arrangement • Application of Latin in prescriptions • Latin abbreviations in prescriptions • The prescriptions copy <p>(Yuwono T. and Joko Suyono, 2017, page 47-70) (Moch. Anief, 1987) (Moch. Anief, 1993)</p>	3%
5	<p>1. Being able to understand various pharmaceutical dosage forms and administration methods</p> <p>(STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)</p>	<ul style="list-style-type: none"> • The accuracy in explaining various pharmaceutical dosage forms 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lectures & group discussions, • [TM: 1x(2x50")] • (Task-1: Explain and provide examples of medicinal preparations on the market and how to use them) • (Task-2: mention examples of Pno1-Pno6 Drug warnings) 	<ul style="list-style-type: none"> • Variation of dosage forms • Benefits • Route of Administrations • General considerations in designing dosage forms • warning in limited supply of over-the-counter drugs • general classification of drugs <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F., et al., 2010)</p>	3%

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6	1. Being able to understand the definition, methods of making: Powder (STN8, STN11, KU2, KU5, KU10, KK10)	<ul style="list-style-type: none"> •The accuracy in explaining how to make powder preparations •The accuracy in explaining the definition of pulvis and pulveres 	<ul style="list-style-type: none"> •Online exercise/quiz (V-class) •Text book/jurnal review 	<ul style="list-style-type: none"> •Lecture & Group Discussion, [TM: 1x(2x50")] 	<ul style="list-style-type: none"> •Definition and manufacturing method: •Undivided powder •Divided powder in packs •Effervescent granules •Methods of making •Powder advantages and disadvantages <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)</p>	6%
7	1. Being able to understand the definition of making Capsul (STN8, STN11, KU2, KU5, KU10, KK10)	<ul style="list-style-type: none"> •The accuracy in explaining the definition and method of making capsules •The accuracy in explaining the advantages and disadvantages of capsule preparations 	<ul style="list-style-type: none"> •Online exercise/quiz (V-class) •Text book/jurnal review 	<ul style="list-style-type: none"> •Lecture & Group Discussion, [TM: 1x(2x50")] 	<ul style="list-style-type: none"> •Definition, method of making, advantages and disadvantages: •Hard capsule •Soft capsule <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)</p>	3%
8	Mid-Semester Assement					29%
9	1. Being able to understand the definition, methods of making: Tablet	<ul style="list-style-type: none"> •The Accuracy in explaining the Definition and method of making pills 	<ul style="list-style-type: none"> •Online exercise/quiz (V-class) •Text book/jurnal review 	<ul style="list-style-type: none"> •Lecture & Group Discussion, [TM: 1x(2x50")] •Reading Journal/Presentation slides [TM: 1 x (2x50")] 	<p>The Definition, how to make and how to use:</p> <ul style="list-style-type: none"> •Tablet •Buccal tablets •Sublingual tablets •Effervescent tablets •chewable tablets, 	3%

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10	(STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)				<ul style="list-style-type: none"> • Sugar coated tablets • Interic coated tablets • Slow release tablets <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F., et al., 2010)</p>	
	1. Being able to understand the definition, methods of making: Pills (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	The Accuracy in explaining the Definition and method of making pills	<ul style="list-style-type: none"> • Online exercise/quiz (V-class • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(2x50")] 	<ul style="list-style-type: none"> • Definition and method of making: • Pills <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F., et al., 2010)</p>	3%
11	1 Being able to understand the definition, methods of making Suppository 2 Being able to understand the definition, methods of making ointments, pastes, creams, gels, plasters (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	<ul style="list-style-type: none"> • The accuracy in explaining the definition, methods of making of suppository correctly • The accuracy in explaining the definition, methods of making: ointments, pastes, creams, 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(2x50")] 	<ul style="list-style-type: none"> • Definition, how to use how to make and advantages and disadvantages of suppositories • Definition and method of preparation : Ointments Pastes, Creams and Gels <p>(Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F., et al., 2010)</p>	6%

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12	1. Being able to understand the definition, methods of making: Solution. (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	<ul style="list-style-type: none"> • The accuracy in explaining the definition, method of preparation: Solution 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(2x50'')] 	Definition, method of administration and method of making: <ul style="list-style-type: none"> - Solution - Syrup - Elixir - Drops (Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)	3%
13	1. Being able to understand the definition, methods of making: Suspension 2. Being able to understand the definition, methods of making: Emulsion (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	<ul style="list-style-type: none"> • The accuracy in explaining the advantages and disadvantages of suspension preparations • The accuracy in explaining on how to choose suitable materials for o/w and w/o emulsion preparations 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(2x50'')] 	<ul style="list-style-type: none"> • Suspension • The definition and methods to make emulsion (Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)	3%
14	1. Being able to understand the definition, methods of making: Injection 2. Being able to understand the	<ul style="list-style-type: none"> • The accuracy in explaining the definition and, methods of making: Injection • The accuracy in explaining the 	<ul style="list-style-type: none"> • Online exercise/quiz (V-class) • Text book/jurnal review 	<ul style="list-style-type: none"> • Lecture & Group Discussion, [TM: 1x(2x50'')] 	<ul style="list-style-type: none"> • Definition, various route of administration and methods of making of injection • Definition, various examples, nature of 	3%

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	definition, methods of making: Vaccines and Immunoserum (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	products of vaccines and immunoserum			contents, route of administration: vaccines and immunoserum (Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)	
15.	1 Being able to understand the definition, methods of making: Tincture Extract, Infusion Decoct (STN8, STN11, KU2, KU5, KU10, KK10, P1, P10)	<ul style="list-style-type: none"> The accuracy in explaining the definition, method of preparation: Tincture Extract, Infusion Decoct 	<ul style="list-style-type: none"> Online exercise/quiz (V-class Text book/jurnal review 	<ul style="list-style-type: none"> Lecture & Group Discussion, [TM: 1x(2x50")] 	Definitions, methods of extraction and examples of tinctures, extracts and infusions and decoctions (Moch. Anief, 1987) (Moch. Anief, 1993) (Marriot J.F, et al., 2010)	
16	Final Assesment					29%

PRACTICUM ACTIVITIES

wEEK-	Sub-CP-MK	Indicator	Criteria and Form of Assessment	Forms/Methods of Learning and Student Assignments [Estimated time]	Learning Materials (Library)	Score Weight (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)

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1,2	1. Being able to explain the procedures for entering the pharmaceutical laboratory 2. Being able to explain how to use laboratory equipment, safety in the laboratory, and pharmaceutical chemicals (KK10; KK13)	<ul style="list-style-type: none"> •The accuracy in applying the rules, how to use microbiology laboratory equipment 	<ul style="list-style-type: none"> •Laboratory skills •Practicum report •Text book/journal review 	<ul style="list-style-type: none"> •Practice; 1x170" •Lecture •Watching videos •Pretest, practicum, discussion, report submission 	Introduction to laboratories, work contracts and introduction to the techniques of using pharmaceutical laboratory equipments	3%
3,4	1. Being able to apply prescription theory and prescription copy (KK10; KK13)	<ul style="list-style-type: none"> •The accuracy in reading prescriptions and keeping prescription journals, the accuracy in calculating drug doses 	<ul style="list-style-type: none"> •Laboratory skills •Practicum report •Text book/journal review 	<ul style="list-style-type: none"> •Practice; 1x170" •Lecture •Watching videos •Pretest, practicum, discussion, report submission 	<ul style="list-style-type: none"> •Reading Prescriptions the •Writing Prescriptions Copy the 	3%
5,6	1. Being able to apply the theory of manufacturing pulvis, pulveres, and capsules 2. Being able to understand the meaning of Latin	<ul style="list-style-type: none"> •The accuracy in reading the prescriptions, finding the right drug formula, making pulvis, pulveres, and capsule preparations 	<ul style="list-style-type: none"> •Laboratory skills •Practicum report •Text book/journal review 	<ul style="list-style-type: none"> •Practice; 1x170" •Lecture •Watching videos •Pretest, practicum, discussion, report submission 	<ul style="list-style-type: none"> •Reading Prescriptions the •Writing Prescriptions Copy the 	6%

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	related to the manufacture of pulvis, pulveres, and capsule preparations (KK10; KK13)				<ul style="list-style-type: none"> • Making the preparations of pulvis, pulveres, and capsule • Being able to mention the efficacy of the drug being made 	
7	1. Being able to apply the theory of making syrup and able to understand the meaning of Latin related to syrup making 2. Being able to understand the meaning of Latin related to the manufacture of syrup preparations	Reading the prescriptions, looking for the right drug formula, making syrup preparations	<ul style="list-style-type: none"> • Laboratory skills • Practicum report • Text book/journal review 	<ul style="list-style-type: none"> • Practice; 1x170" • Lecture • Watching videos • Pretest, practicum, discussion, report submission 	<ul style="list-style-type: none"> • Reading the Prescriptions • Writing the Prescriptions copy • Making the preparations of syrup • Being able to mention the efficacy of the drug being made 	6%
8 9-10	(KK10; KK13) 1. Being able to apply manufacturing theory and be able to understand the meaning of Latin related to the manufacture of emulsion and	<ul style="list-style-type: none"> • The accuracy in mixing acids and bases in the process of making emulsions and suspensions • The accuracy in selecting suitable additives in the preparation 	UJIAN TENGAH SEMESTER <ul style="list-style-type: none"> • Laboratory skills • Practicum report • Text book/journal review 	<ul style="list-style-type: none"> • Practice; 1x170" • Lecture • Watching videos • Pretest, practicum, discussion, report submission 	<ul style="list-style-type: none"> • Reading the Prescriptions • Writing the Prescriptions copy • Making the preparations of emulsion and suspension 	29% 6%

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	suspension preparations 2. Being able to understand the meaning of Latin related to the manufacture of emulsion and suspension preparations				• Being able to mention the efficacy of the drug being made	
	(KK10; KK13)					
11-12	1. Being able to apply manufacturing theory and be able to understand the meaning of Latin related to the manufacture of neutralization, saturation, and effervescent potio preparations 2. Being able to understand the meaning of Latin related to the preparation of neutralization, saturation, and effervescent potio preparations	• The accuracy in the preparation of neutralization, saturation, and effervescent potio preparations	• Laboratory skills • Practicum report • Text book/journal review	• Practice; 1x170" • Lecture • Watching videos • Pretest, practicum, discussion, report submission	• Reading the Prescriptions • Writing the Prescriptions Copy • Making the preparations of the neutralization saturation and effervescent potio • Being able to mention the efficacy of the drug being made	6%

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	(KK10; KK13)					
13,14	<p>1. Being able to apply manufacturing theory and be able to understand the meaning of Latin related to the manufacture of ointments, gels and pastes</p> <p>2. Being able to understand the meaning of Latin related to the preparation of ointments, gels and pastes</p>	<p>• The accuracy in making ointments, gels, and pastas</p>	<p>• Laboratory skills</p> <p>• Practicum report</p> <p>• Text book/journal review</p>	<p>• Practice; 1x170"</p> <p>• Lecture</p> <p>• Watching videos</p> <p>• Pretest, practicum, discussion, report submission</p>	<p>• Reading the Prescriptions</p> <p>• Writing the Prescriptions Copy</p> <p>• Making the preparations of ointments, gels, and pastas</p> <p>• Being able to mention the efficacy of the drug being made</p>	6%
	(KK10; KK13)					
15	<p>1. Being able to apply manufacturing theory and be able to understand the meaning of Latin related to the manufacture of suppositories</p> <p>2. Being able to understand the meaning of Latin related to the</p>	<p>• The accuracy in making suppositories</p>	<p>• Laboratory skills</p> <p>• Practicum report</p> <p>• Text book/journal review</p>	<p>• Practice; 1x170"</p> <p>• Lecture</p> <p>• Watching videos</p> <p>• Pretest, practicum, discussion, report submission</p>	<p>• Reading the Prescriptions</p> <p>• Writing the Prescriptions Copy</p> <p>• Making the preparations of suppositories</p> <p>• Being able to mention the efficacy of the drug being made</p>	6%

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	manufacture of suppository preparations (KK10; KK13)					
16	Final Assesment					29%

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